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VALUES HELD FOR PHYSICAL ACTIVITY BY SELECTED URBAN SECONDARY SCHOOL STUDENTS IN CANADA, AUSTRALIA, ENGLAND AND THE UNITED STATES.

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THIS PROJECT SOUGHT TO DETERMINE--(1) THE ATTITUDES TOWARD, AND THE NATURE AND DEGREE OF INVOLVEMENT IN, PHYSICAL ACTIVITY OF URBAN SECONDARY SCHOOL STUDENTS AS A FUNCTION OF COUNTRY, SEX, AND LEVEL OF EDUCATIONAL ATTAINMENT, AND (2) THE SIGNIFICANCE OF CERTAIN BEHAVIORAL, DISPOSITIONAL, AND SITUATIONAL VARIABLES IN EXPLAINING ATTITUDES TOWARD, AND INVOLVEMENT IN, PHYSICAL ACTIVITY. ABOUT 4,000 STUDENTS FROM CANADA, AUSTRALIA, ENGLAND, AND THE UNITED STATES WERE ADMINISTERED THREE INVENTORIES AND CERTAIN DISPOSITIONAL AND SITUATIONAL MEASURES. THE DATA WERE SUBJECTED TO A NUMBER OF ANALYSES AND LEAD TO THE FOLLOWING CONCLUSIONS--(1) ATTITUDE TOWARD PHYSICAL ACTIVITY IS A FUNCTION OF THE PERCEIVED INSTRUMENTAL VALUE ASSOCIATED WITH THE ACTIVITY TOWARD WHICH THE ATTITUDE IS EXPRESSED, AND IS A FUNCTION OF OTHER ACQUIRED BEHAVIORAL DISPOSITIONS, (2) THE RELATIVE POSITIONS OF EACH OF THE SEVEN DIMENSIONS OF ATTITUDE ARE CONSISTENT ACROSS THE FOUR COUNTRIES, AND (3) OLDER STUDENTS ARE MORE DISPOSED TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE AND AS CATHARSIS THAN ARE THE YOUNGER ONES. (AUTHOR/RD)

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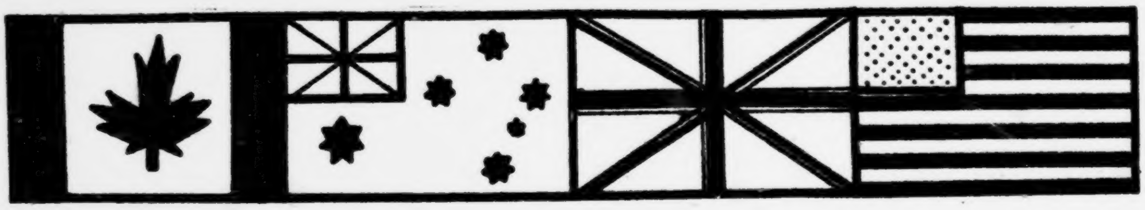
VALUES HELD FOR PHYSICAL ACTIVITY BY SELECTED URBAN SECONDARY SCHOOL STUDENTS IN CANADA, AUSTRALIA, ENGLAND AND THE UNITED STATES

United States Office of Education Contract S-376

Gerald S. Kenyon



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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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University of Wisconsin

February, 1968

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SUMMARY OF FINAL REPORT

VALUES HELD FOR PHYSICAL
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IN CANADA, AUSTRALIA, ENGLAND
AND THE UNITED STATES

United States Office of Education Contract OE-6-10-179

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Summary

PROJECT SUMMARY

The purpose of the research as originally proposed was to determine "the feasibility and practicability of extensive cross-national studies of the significance of physical activity." To accomplish this a project was conceived having two aspects:

1. To conduct a limited cross-national study of the values held for physical activity by contemporary adolescents, and,

2. to determine the feasibility of more extensive cross-national studies in the future.

With regard to the latter, the experience derived from conduct of the research phase of this project, together with the opportunity to visit investigators in several countries in Europe, and to participate in several international meetings, has led the investigator to conclude that the future for cross-national research in the sociology of sport is indeed bright. The competence to carry out such studies has never been greater, nor has the availability of technical resources been as pronounced. Although the potential financial support for studies of this kind varies greatly from one country to another and from year to year, particularly in view of international events, the future looks promising.

Since the major aspect of the project was the research study the remainder of the summary is addressed to it.

During 1966 a cross-national study was undertaken to determine values held for sport and physical activity among selected secondary school students. More specifically, there were four objectives:

1. To determine attitudes toward physical activity of urban secondary school students as a function of country, sex, level of educational attainment.

2. To determine the nature and degree of involvement in physical activity among urban secondary school students as a function of country, sex, level of educational attainment.

3. To determine the significance of certain behavioral, dispositional, and situational variables in explaining attitude toward physical activity.

4. To determine the significance of certain behavioral, dispositional and situational variables in explaining involvement in physical activity.

The study was an exploratory one designed not to treat a well- defined theory of attitude toward, or involvement in physical activity, but rather to provide the basic data from which theoretical statements, at least in part, could emerge.

To meet the objectives of the study, approximately four thousand secondary school students from Canada, Australia, England and the United States were administered three inventories designed to elicit data concerning their attitude toward and involvement in sport and physical activity, together with certain dispositional and situational measures thought to be associated with attitude and involvement. The data were subjected to a number of analyses designed to determine the association between independent and dependent variables while controlling for sex, country, and level of educational attainment.

While no hypotheses were stated explicitly, it was postulated that in general: relationships would exist between attitude toward, and involvement in similar forms of physical activity; attitudes toward, and involvement in various forms of physical activity would be a function of certain behavioral dispositions, including social values, body-esteem, need for approval, self-esteem, and relation with father; and that attitude toward, and involvement in physical activity, would be a function of certain situational variables, such as peer involvement, father's involvement, family size, birth order, national origin of parents, social class background, religious preference and devotion. A more complete rationale is provided in Chapters One and Two of the report.

Based upon findings derived from analyses of attitudinal, involvment, behavioral, dispositional, and situational data, the following general conclusions are presented. (The reader should refer to the completed report for detailed findings.)

Attitude

1. Attitude toward physical activity is a function of the perceived instrumental value associated with the activity in question. Among secondary school students the most positive attitudes are those toward physical activity characterized as a social experience, as health and fitness, as an aesthetic experience, and as catharsis. Less positive attitudes prevail when physical activity is characterized as the pursuit of vertigo, as an aescetic experience, and as chance.

2. Attitude toward physical activity is a function of sex. Females possess a more positive attitude toward physical activity when it is perceived as a social experience, as health and fitness, as an aesthetic experience, and as catharsis, while males possess more positive attitudes than females toward physical activity perceived as the pursuit of vertigo, as an ascetic experience, and as chance.

3. The relative position of each of the seven dimensions of attitude are consistent across the four countries studied. In general, Australian secondary school students possess less positive attitudes toward physical activity than those representing the other three nations.

4. Older students are more disposed toward physical activity as an ascetic experience and as catharsis than the younger students. Younger students, on the other hand, express a more positive attitude toward physical activity as chance than their older counterparts.

5. Attitude toward physical activity is directly related to the degree of primary and secondary involvement in activity toward which the attitude is expressed.

6. To some extent, attitudes toward physical activity are a function of other acquired behavioral dispositions, including body-esteem, self-esteem, need for approval, social values, and relationship with father.

Involvement

1. Although marked differences exist among various forms of involvement and between sexes, the over-all extent to which secondary school students from the four countries studied are involved, both directly and vicariously, is considerable.

2. Although national differences were not great, in general the United States student is involved in sport and physical activity to a greater extent than those from the other three countries.

3. Both primary and secondary involvement is more prevalent among males than females, and among the younger than older students.

4. Those activities toward which the most positive attitudes were expressed are the most popular forms of both primary and secondary involvement.

5. The nature and degree of primary and secondary involvement are a function of a complex set of behavioral, dispositional, and situational factors.

The findings reported here are for the most part general and descriptive. Considerable work remains in order to account for a greater proportion of the variance contributed by factors associated with both attitude toward, and involvement in physical activity. As a prerequisite to further studies, a more definitive theory concerning the etiology of attitude toward, and involvement in physical activity is necessary. A number of promising possibilities are on the horizon. To take one example, involvement at any point in time, whether it be primary or secondary, is a function of many past and present forces. Thus one approach worth exploring might be the use of stochastic models which would take into account the changing probabilities over time of various forms of involvement, together with their several correlates. It is hoped that the work in the report will provide some of the descriptive data upon which new explanatory systems may be constructed.

PREFACE

The purpose of research as originally proposed was to determine "the feasibility and practicability of extensive cross-national studies of the significance of physical activity." To accomplish this, a project was conceived, having two aspects:

1. To conduct a limited cross-national study of the values held for physical activity by contemporary adolescents, and
2. To determine the feasibility of more extensive cross-national studies in the future.

It has been possible to carry out both aspects of the project. Since the research study was the major aspect of the two, the greater part of this document is addressed to it. The feasibility of future studies, while revealing itself throughout the report, is discussed separately in Appendix A.

A great many persons gave much of their time and energy to co-operate with the investigator in carrying out the study. Their contribution took many forms; from making arrangements for the use of a particular school system, to preparing the final report. I am particularly indebted to Dr. Maxwell L. Howell of the University of Alberta, Mr. Darwin Semotiuk and Mr. Kevin Collins, of the University of Manitoba, for their work in carrying out the Canadian and Australian phases of the project; to Dr. James Oliver of Birmingham University, Mr. J. F. McCarthy, Chief Organiser for Physical Education, City of Birmingham Education Committee,

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CHAPTER ONE

THE NATURE OF THE STUDY

Since World War II, social scientists have become increasingly interested in comparing the characteristics of social systems of one country with those of other countries. Their purpose has been to understand, in societies other than their own, the structure and function of certain institutions *per se*; but more importantly, to test the efficacy of promising social theory in a larger field. Many of these investigations have been carried out by sociologists, political scientists or economists. Recently, however, considerable work has been underway in the field of comparative education. As with other social institutions, interest in educational programs of other countries has been heightened by such factors as an increase in international competition for products and ideas, a vast improvement in world communications, and a drastic reduction in time requirements for travel. Consequently, countries faced with problems created by rapid rates of cultural change are becoming more interested in the efforts of their neighbors, largely to avoid mistakes from which the time available to recover is shortening (King, 1962).

Despite the rise in interest in comparative education, there has not been a corresponding interest in one branch of education, namely physical education — a school subject which, it is frequently alleged, is better administered and taught with greater success, in European countries than in the United States. Furthermore, past cross-cultural studies of physical education programs have consisted primarily of expository writings describing various national physical education systems (Havel, 1959; Gray, 1960; Ludwig, 1961), rather than systematic research to reveal the determinants or outcomes of such programs. There are exceptions, of course, such as the appearance of several studies showing the inferiority in physical performance of United States children when compared with those of other nations (Kraus and Hirschland, 1954; Kelliher, 1960; Campbell and Pohndorf, 1961; Knuttgen, 1961; Ikeda, 1962; and Sloan, 1963). In discussing their findings, investigators have suggested that discrepancies in fitness and skill are due to the different life styles found in other countries. For example, Knuttgen attributes the differences in physical fitness between Danish and U.S. children to (1) cultural differences in the amount of activity required for daily living, (2) a "distinct difference" in physical education programs, and (3) a much higher interest in sport participation in Denmark. Such explanations are certainly plausible, yet little effort has been made to test them empirically. While the characteristics of physical education programs may account for some of the variance, it is likely that the social and cultural situation would determine to a large extent values held for, and involvement in various forms of physical activity for a given country.

Literature treating physical activity as a cultural phenomenon varies from works that are largely narrative and anecdotal (Boyle, 1963; Umminger, 1963) to attempts at providing an explanation of the significance of sports and games in culture (Huizinga, 1950 Cozens and Stumpf, 1953; Riesman and Denny, 1954; Natan, 1958; Roberts, _et al._, 1959; Caillois, 1961; McIntosh, 1963; Morton, 1963). However, some efforts have been made to acquire empirical data specifically for testing social theory in a sport situation, including the work of Stone (1957), Coleman (1961), Roberts and Sutton-Smith (1963), and Grusky (1963). Yet the surface has only been scratched.

Although some comparative studies have been completed under the direction of international agencies (UNESCO, 1956; ICHPER, 1963), the data were often subjective and difficult to validate. Comparisons among physical education programs in various countries did reveal marked differences with respect to such questions as the role of competitive sport in schools, physical training methods, and the preparation of teachers and coaches.

In the realm of attitudes toward, or values held for sport and physical education, however, no objective attempts to contrast these from one culture to another were found in the literature. That the time is ripe to analyze such attitudes is suggested by the frequent appearance in the literature, popular and professional, of various "arm chair" explanations for the physical inferiority of American youth. For example, it is often argued that this situation is precipitated by a style of life in the United States frequently characterized as "soft"; which, it is suggested, is the consequence of urbanization and automation. Such explanations, unfortunately, were largely speculative in nature; not carefully formulated propositions based upon substantial objective data. An equally plausible argument is that urbanization, with its attendant restraints upon physical activity, is probably as advanced in many European countries as it is in the United States.

Thus, if it is desired to understand the importance of physical activity for the members of different societies, it is necessary to consider values held for it. Such values are revealed, in part at least, by ascertaining attitudes toward, and involvement in various forms of physical activity. The results of efforts in this direction would be largely descriptive in nature, but nevertheless, they would provide the basis for explaining the significance of physical activity within and among the several societies of concern.

I. The Problem

The purpose of the study was to determine, cross-nationally, values held for physical activity among adolescents. More specifically, there were four objectives:

1. To determine attitudes toward physical activity among urban secondary school students as a function of country, sex, and level of educational attainment.
2. To determine the nature and degree of involvement in physical activity among urban secondary school students as a function of country, sex and level of educational attainment.
3. To determine the significance of certain behavioral, dispositional and situational variables in explaining attitude toward physical activity.
4. To determine the significance of certain behavioral, dispositional and situational variables in explaining involvement in physical activity.

II. The Variables

Dependent Variables

The study involved two classes of dependent variables and two classes of independent variables. These are identified immediately below. The instruments and procedures used for their assessment are given in the next chapter. Values held for physical activity were conceived of as being reflected in both attitude toward, and involvement in physical activity. Thus, for this study there were two classes of dependent variables: those representing various dimensions of attitude toward physical activity, and those representing various forms of involvement.

Attitude Toward Physical Activity. Determining attitude toward physical activity was based upon a conceptual model for characterizing physical activity developed by the investigator as part of previous studies (Kenyon, 1965, 1966b, 1968a). In brief, it was assumed that "physical activity" can be reduced to more specific, or meaningful components; i.e., a set of all physical activities can be reduced to logical subsets, and that a meaningful basis for doing so was the "perceived instrumentality" of each class of physical activity. Thus, definitions were provided for the "psychological objects" toward which attitudes were held. The seven dimensions of the model were as follows:

Physical activity perceived as

1. a social experience
2. health and fitness
3. the pursuit of vertigo
4. an aesthetic experience
5. catharsis
6. an ascetic experience
7. chance

Only the first six were a part of the original model. The seventh, "chance," was added[1] in view of its prevalence in the literature dealing with the classification of games and sports (Caillois, 1961; Roberts, et al., 1959).

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[1] At the suggestion of John W. Loy, Jr.

Involvement in Physical Activity. Involvement in sport and physical activity has many dimensions (Kenyon, 1968b; Loy and Kenyon, 1968). Consequently, to explain one or more aspects of involvement, would necessitate taking into consideration its several components, including the form of the activity, the nature of the participants - whether they play the game or watch it, the characteristics of the situation, including its various environmental and promotional components, and the norms and values of the society in which the activity occurs. Such an all-embracing approach was beyond the scope of this study, however. Therefore, attention was directed primarily toward the participant, whose involvement was one of two toward the participant, whose involvement was one of two kinds: primary involvement, or actual participation, or secondary involvement, or vicarious participation. The latter included attendance at sporting events, and the consumption of sport through the mass media, such as the press and mass media.

Independent Variables

Much social behavior can be accounted for through a complex interaction of dispositional and situational variables. Undoubtedly, this is also true for social behavior involving sport and physical activity. Thus, an attempt was made to explore the association between participation and certain socio-psychological variables. Since there exists at this time no integrated theory of involvement in sport and physical activity, the independent variables were chosen on the basis of their possible relationship with certain of the dependent variables as inferred from their importance in explaining related social phenomena. It was hoped that the findings from such an exploratory study would contribute, in part, to the development of some rudimentary theories of involvement.

__Behavioral Dispositions.__ When attitudes were considered as dependent variables, certain involvement variables were considered as independent variables, and __vice versa__. In addition, certain other variables which characterize a particular person were used. Although one might expect personality traits to be important factors in determining the nature of involvement and attitude, a complete personality inventory would have made excessively great demands upon the pupil time available for the study.[2] However, certain selected measures were obtained that were thought to be associated with attitude or involvement. These were:

1. Social values: a response to six statements reflecting the six scales of the Allport-Vernon-Lindzey __Study of Values__
2. Body-esteem
3. Need for approval
4. Self-esteem
5. Relation with father

__Situational Variables__. A number of demographic and situational variables were included in the study on the premise that a receptive milieu (even though its nature may be unknown) would be a pre-requisite to involvement. Variables of this type were:

1. Level of educational attainment
2. Sex
3. Country
4. Peer's primary involvement
5. Father's or guardian's favorite primary involvement
6. Father's or guardian's favorite secondary involvement
7. Age
8. Size of family
9. Birth order
10. National origin of parents
11. Education of household head
12. Occupation of household head
13. Religious preference
14. Religious devotion

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[2] In a pilot study, however, Cattell's __High School Personality Questionaire__ was used. See O'Brian (1966) for an analysis of the inter-relationship between personality and attitude toward physical activity.

III. Hypotheses

Although there is not a great deal of empirical support at this time for the significance of the above variables (or any others, for that matter) in explaining attitude toward or involvement in physical activity, their inclusion is based partly upon the obvious, and partly what can be inferred from social theory and the findings resulting from other studies. For example, attitudes toward physical activity are likely to be related to involvement in physical activity, despite the fact that attitudes and overt behavior are not necessarily highly correlated (Krech, Crutchfield, and Ballachey, 1962:42). This is particularly so since behavior associated with involvement for the most part is relatively non-controversial. Therefore, one might expect considerable consistency between the "affective" and "action tendency" components of attitude toward various forms of physical activity. Furthermore, attitude has been shown to be a function of personality (Krech, et al., 1962:199; Smith, Bruner and White, 1956) and thus, several traits have been selected as listed above. Since attitude formation is a function of one's group affiliations and the information to which he is exposed (Krech, et al., 1962:213), family and peer attributes were considered also.

There were several plausible relationships between involvement and certain dispositional and situational variables.[3] The rationale was similar to that supporting the relationship between attitude and dispositional and situational variables. Other work has suggested certain relationships as well. For example, involvement in kind and frequency has long been shown to be a function of social class (Kenyon, 1966a; Kenyon, Loy, and Isaacman, 1966). Also, it can be inferred from the work of Rosenberg (1965) and Crowne and Marlowe (1964), that self-esteem and need for approval are associated with attitude toward and involvement in physical activity. Further justification of variables is given in the next chapter.

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[3] See Appendix B for a statement of hypotheses formulated for the Janesville Pilot Study.

In summary, then, the purpose of the study was to ascertain cross-national differences in adolescents' values held for physical activity, as expressed in attitudes toward and involvement in physical activity, and to explore some possible social and psychological correlates of attitude and involvement.

CHAPTER TWO

PROCEDURES

The central purpose of the study was to determine cross-nationally attitudes toward, and involvement in, various forms of physical activity. In addition, efforts were made to ascertain the significance of certain dispositional and situational correlates of attitude and involvement. Data for the study were acquired from samples of seconday school students from each of four countries using three inventories designed to provide measures for each of the dependent and independent variables.

A project of this nature called for a variety of procedures, for both acquiring and processing data. Thus, preliminary studies were considered essential to test instruments and to provide experience in their administration with subjects similar to those to be used in the main study. Therefore two pilot studies were carried out. These are described below, followed by a delineation of sampling procedures, the nature of the inventories and procedures for their administration, and the procedures used to document and treat data.

I. Pilot Studies

Two limited studies were conducted prior to carrying out the investigation. The first, the Newcastle-Milwaukee Study (Kenyon, 1965), provided an opportunity to test the utility of certain concepts when used with both English and American subjects. The second, the Janesville Study, was a direct preliminary to the present study, and as such, provided an opportunity to determine both the appropriateness of the instruments and the best procedures for administering same.

The Newcastle-Milwaukee Study

Data were acquired from 351 students enrolled in four grammar and two secondary modern schools in Newcastle Upon Tyne, England (population: 269,389; 1961), and from 516 students enrolled in two large public high schools in Milwaukee, Wisconsin (population: 741,324; 1960). Valuable experience was accrued with respect to sampling procedures and the utility of certain approaches to gathering information from students varying widely in class background and ability. Two inventories were used. One provided a score on each of six Likert-type scales for assessing attitude toward six perceived instrumental values of physical activity -- similar to those used in the present study. A second inventory was used to ascertain the form and degree of involvement in physical activity and to acquire certain social data, including class background. It was found that the majority of secondary students in both England and the United States were able to manage the inventories with a minimum of special assistance. Moreover, the concepts found to be meaningful in the United States, particularly those characterizing physical activity according to a perceived instrumental value, were also meaningful in England. The findings are given in two reports (Kenyon, 1965; Kenyon, Loy, and Isaacman, 1966).

The Janesville Study

In an effort to select the most plausible variables consistent with the purpose of the present study, and at the same time to select the most efficacious procedures for acquiring data representing these variables, six inventories were administered in class sessions requiring two meetings for each class, to 245 tenth and twelfth-grade students enrolled in Janesville High School, Janesville, Wisconsin (population: 35,164;1960).

The school was a comprehensive high school with an enrollment of between 1,900 and 2,000 students in 1965-66. The classes were selected to provide a full range of class background and intellectual aptitude. The six inventories and their purposes were as follows:

1. The P.A.T. Inventory. This inventory was a Likert-type inventory developed to assess attitude toward six dimensions of physical activity (Kenyon, 1966b). These were:

Physical activity as

a. a social experience
b. health and fitness
c. the pursuit of vertigo
d. an aesthetic experience
e. catharsis
f. an ascetic experience

2. The B.A.T. Inventory. This inventory was used to acquire attitude and body image data using a semantic differential approach (Osgood, Suci, and Tannenbaum, 1957). The attitude dimensions in this case were the same as those in the P.A.T. inventory. The purpose in trying the semantic differential approach for this study was to take advantage of the simplicity of this technique and to minimize the cross-national differences in word meanings and interpretation.

3. The Cattell High School Personality Questionaire. A personality inventory patterned after Cattell's 16 P.F. questionaire, the instrument provided a profile consisting of 14 dimensions of personality, together with two composite measures, "extroversion" and "anxiety" (Cattell, 1962).

4. The S.A.T. Inventory. A short inventory for acquiring "self-esteem" and "relation with father" measures, using Guttman-type scales developed by Rosenberg (1965).

5. The S.E.X. Inventory. Used to acquire demographic and situational information, including class background (Hollingshead, 1957), religious preference, etc.

6. The P.I.T. Inventory. An inventory to acquire data pertaining to involvement in physical activity and sport, and to test the utility of a brief approach to assessing social values.

The experience with each of the six inventories permitted certain decisions to be made regarding the scope and nature of the instrumentation for the main study. Thus, it was decided that the semantic differential approach would be best for assessing attitude since it was quicker, more efficient and yielded higher reliability coefficients than the Likert-type inventory. Since the Cattell High School Personality Questionnaire required nearly a class period in itself, and since the time available for the main study was restricted to a single class period, it was decided not to assess personality.[1] Most of the items contained within the other inventories were retained and placed in new inventories for the main study. More details are presented below.

II. Population and Samples

Although it would have been desirable to study the characteristics or urban, suburban, and rural adolescents from many countries, such would have been much beyond both the resources and objectives of this project. Consequently, the population was identified as urban secondary school pupils in English speaking, economically developed nations with somewhat comparable cultural heritages. Since the study was largely exploratory and to be conducted on a limited budget, samples were drawn from a single school system serving a large urban community in each of four countries, namely, Canada, Australia, England, and the United States. Thus, in terms of world cultural diversity the groups were relatively homogeneous. Although no one city can be representative of all urban communities within a given country, efforts were made to select cities meeting the following criteria: relatively large in population, possessing a large school system and populated by citizens with a wide range of vocational, economic, and cultural backgrounds. A further, and practical criterion was the necessity of selecting cities within which full co-operation could be secured.

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[1] See O'Brian (1966) for the association between certain personality traits and attitude toward physical activity, based upon the Janesville data.

Using sex and level of educational attainment as stratifying variables, four sub-populations were identified. Justification for stratifying on sex was the anticipation that boys would differ from girls in several aspects of attitude toward, and involvement in physical activity. Since the instruments called for some maturity on the part of the respondent, and since attitudes become more crystallized and life styles more consistent with age, level of educational attainment was considered in the sampling procedure. Two levels were chosen. A lower level was representative of students approximately fifteen years old — an age at which compulsory school attendance is in effect in all countries. In Canada and the United States grade ten was selected to represent this group. The English and Australian equivalents were the fourth and third forms, respectively. An upper level consisted of students 17 - 18 years old; grade twelve in Canada and the United States, sixth form in England and fifth form in Australia. While the younger samples can be considered as representative of all urban youth of their age in their respective cities, the older groups cannot be considered as equally representative, in view of many having dropped out of school before reaching this level. This is particularly true for the English sample where up to seventy percent leave school before the sixth form,[2] with most of those who remain tending to be intellectually superior, and coming from families whose socio-economic status is above average.

Within each city the school was the primary sampling unit. Thus schools were selected in proportion to their type and average socio-economic status of their pupils. An effort was made to include in each sample students of both Catholic and Protestant faith, the two predominant groups in each sub-population. Although the procedure differed somewhat among the four cities due to local conditions, within each school students were selected to provide a cross-section of all students enrolled.

It was planned to administer inventories to 1000 students from each school system, or 250 from each of the four sub-populations. While this objective was reached for the most part, a portion of the Australian data was lost between Perth and Madison, thus reducing the size of the Australian sample for certain analyses.[3] A more detailed description of the sampling procedure used in each city follows.

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[2] The leaving age in England is fifteen years.

[3] Fortunately the data remaining were such that the integrity of the sample, if not the size, was maintained. The intact data came from schools representing the full range of socio-economic status. (See Tables 5 and 6)

The Canadian Sample

The Canadian data were obtained in Edmonton, Alberta (population 281,027;1961), a rapidly growing industrial and distributing center.[4] The investigator traveled to the city in January, 1966, and discussed the procedures with those responsible for collecting data for both the Canadian and the Australian phases of the study, namely, Professor Maxwell L. Howell of the University of Alberta, Mr. Darwin Semotiuk and Mr. Kevin Collins. Mr. Semotiuk took charge of the Edmonton phase of the project, collecting data there in May of 1966. Subjects were selected and administered the three inventories used in this study according to the following procedure:

> The selected subjects were grade ten ($N = 500$) and grade twelve students ($N = 500$) attending six Edmonton secondary schools; four public schools and two separate schools. The schools were chosen on the basis of the representative socio-economic status of their areas. Selection of the schools was based on two things: one, the subjective assessment of the investigator; and two, the sale price of homes in the particular area. The latter criteria was used because no other information of this type was available. Four public schools were selected: one from a high socio-economic area, a medium-high area, a medium area, and one from a medium-low area. Two separate schools were selected: one from a medium-high socio-economic area, and one from a medium-low area.

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[4] By 1967 the population had risen to 376,925, or fifth largest city in Canada (1968 World Almanac).

> The following steps were taken in order to receive formal permission to enter the various schools for testing. The first step taken included correspondence and interviews with the Superintendents and Supervisors of Physical Education in the Edmonton Public School Board and the Edmonton Separate School Board. Once the study had been ratified at this level letters were sent to the principals and the physical education department heads of the schools concerned in the study, asking permission to enter the schools under their jurisdiction. The letter . . . contained information such as the purpose of the study, methods and procedures, number of subjects and suggested testing times. This correspondence was followed up by an interview in which the matter was discussed further and the testing time and date was finalized. Upon completion of the testing, a letter was sent to all individuals connected with the study thanking them for their assistance and cooperation.
>
> The subjects selected for the study, then, were grade 10 and grade 12 school students in four public and two separate schools in Edmonton. The ratio estimation technique was used to determine the number of grade ten's and grade twelve's to be tested in each school. Once these numbers had been established, the investigator went to each individual school and obtained the class lists for all grade 10 and grade 12 male and female students. Each grade ten student in the school was numbered and selected as part of the sample according to a table of random numbers. A similar procedure was followed to select the grade twelve subjects. In addition to this alternates were selected (by the same procedure), to serve as substitutes in case a subject was absent or was unable to do the test because of some other reason. In all, 496 grade ten's (236 males, 260 females), and 499 grade twelve's (237 males, 262 females) were tested. It should be noted that 895 subjects were tested at the initial testing sessions. Follow-up testing raised this number to a final total of 995. (Semotiuk, 1967)

The English Sample

Birmingham (population; 1,105,651; 1961), situated in the industrial Midlands, and the second largest city in England, was selected as the source of the English data. Its schools cater to children of widely differing cultural backgrounds. As with most English education authorities, the Birmingham Education Committee operates a system of much greater complexity than that usually found in Canada or the United States. Although this made the selection of the sample more difficult, through the excellent co-operation of several persons, satisfactory results were obtained.

Following a conference with personnel of the central office of the Birmingham Education Committee, convened by Mr. K. Brooksbank, Deputy Education Officer, twelve schools were chosen which, it was agreed, would satisfy requirements of representativeness established for the study. In response to a request of the Chief Education Officer, Sir Lionel Russell, the headmaster of each of the schools selected expressed a willingness to co-operate. Ten of the schools were under the jurisdiction of the Birmingham Education Committee; the remaining two were Catholic. Of the former, four were Selective Schools (Grammar), two were Comprehensive, and four were Non-Selective.

The investigator visited each school in advance to discuss plans for selecting the pupils and administering the inventories. In each case it was possible to select the appropriate number of pupils at random from those representing each of the four sub-populations within the school. As planned, inventories were administered to approximately 1000 pupils; 250 from each sub-population, during April, 1966. The number selected from each school was such to permit the total sample to reflect the educational, class, and religious characteristics of the entire population. With the assistance of school personnel, the inventories were administered by the investigator.[5]

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[5] For special assistance, I am indebted to Dr. Jack Keogh, Mr. J. F. McCarthy, and Dr. James Oliver.

The Australian Sample

Data for the Australian phase of the project were acquired from the city of Perth, Western Australia (population: 420,133; 1961) the fifth largest city in the country. Detailed plans for collecting the Australian data were made by Mr. Kevin Collins, a former Australian teacher. The procedures were as follows:

> The subjects for this survey were selected from [third and fifth form] urban secondary school students in Perth, Western Australia.
>
> As the sample to be tested was to be a socio-economic stratified random sample, the Bureau of Statistics in Perth was contacted and asked if it could help provide such a sample. It was unable to do this but notified the Research Branch of the Western Australian Education Department. The Director stated that as Western Australian secondary (Government) schools are 'Comprehensive High Schools', they contain students from high and low socio-economic groups, but that schools 'which would reflect these groupings had been chosen'; sic.
>
> The Director of the Physical Education Branch was approached for permission to administer the questionnaires during physical education periods, to groups of randomly selected students from certain schools. This permission was given.
>
> Class lists were obtained for all [third and fifth form] students from the six selected schools and the proportion of subjects from each school determined by the number of students in these classes in each school. From this the number of subjects for each school was determined. The subjects were then selected on a random basis using the class lists, school by school. The names of the selected students were then sent to the respective schools and a date set for the testing. The population sample, when drawn, consisted of 500 subjects from [the third form] and 500 subjects from [the fifth form]. In addition, alternative subjects were selected, in case a subject was not available on the day of testing.
>
> The questionnaires were administered by the Senior Master of Physical Education in each school after preliminary instruction on testing procedure and under the supervision of the Senior Master of Physical Education at Swanbourne High School, who was the co-ordinator in Perth. (Collins, 1967).

The United States Sample

Data on United States students were obtained in December, 1966, from schools in Cleveland, Ohio (population: 876,050; 1960), the country's eighth largest city. Schools whose students represented the four sub-populations of the study were selected in consultation with representatives of the Board of Education, paying special attention to reflecting the economic, religious, and geographical characteristics of the Cleveland School population as well as differences in school type. Six high schools under the jurisdiction of the Cleveland Board of Education, together with two Catholic schools, one for boys the other for girls, were selected.

The investigator and project assistant visited each school to arrange with the principal and other school personnel, procedure for collecting the data; returning later in the week to administer the inventories. Although it was not possible to draw random samples from each school, every effort was made to select class units which were representative of the full range of those enrolled. Data were collected while students were situated in either classroom or study halls.

Comparability of Samples

Efforts were made through both systematic and random procedures to minimize differences among samples with regard to certain personal and environmental factors. The tables that follow illustrate the degree of success achieved in the attempt. Table One, provides the size and age characteristics of samples and sub-samples of students

TABLE 1 - AGE CHARACTERISTICS (IN MONTHS) FOR EACH SAMPLE BY COUNTRY, SEX, AND LEVEL OF EDUCATIONAL ATTAINMENT

Country and Sex	Lower			Upper			Total
	n	$\bar{X}$	s	n	$\bar{X}$	s	n
Canada							
Male	220	193.7	9.1	227	218.6	9.1	447
Female	242	191.5	7.3	252	215.2	7.1	494
Total	462	192.5	8.3	479	216.9	8.3	941
Australia*							
Male	53	192.9	13.9	65	207.1	13.2	118
Female	44	187.3	13.6	50	201.3	11.2	94
Total	97	190.6	13.3	115	204.6	12.6	212
England							
Male	210	180.7	5.1	272	210.0	8.8	482
Female	213	180.2	13.9	186	210.9	8.0	399
Total	423	180.4	10.5	458	210.4	8.5	881
United States**							
Male	167	189.0	30.7	188	215.6	23.7	355
Female	182	190.7	21.4	183	213.2	19.5	365
Total	349	189.9	26.3	371	214.6	22.0	720
All Countries	1331	187.9	16.7	1423	213.1	13.7	2754

* The figures reported represented the minimum sizes of sub-samples, i.e., samples for which complete data were available. Samples were considerably larger for attitude analyses (See Chapter Three).

**The greater variability in the United States sample can be attributed, at least in part, to the fact that in the Cleveland Schools some students were first semester sophomores or first semester seniors, while others were second semester sophomores or seniors, despite all data being collected at the same time.

with meaningful and usable data. Since missing data computer programs were used, the n's varied somewhat from analysis to analysis. As can be seen in Table One, mean ages differed somewhat among the four countries. Some possible explanations for this fact include the collection of data at different times during the year, different age requirements at entrance, different policies on continuation from grade to grade or form to form, and random fluctuations due to sampling procedures.

Table Two provides comparative data on family size as reflected in number of siblings reported by respondents. The data reveal differences between countries, with subjects from England reporting the smallest families, those from the United States the largest, and those from Canada and Australia somewhere in between. Although family size, independent of other variables such as class and religious background, is not known to be an important determinant of involvement in sport and physical activity, the reader should consider the differences between samples when interpreting the findings reported in the chapters which follow.

Table Three shows that a sizeable proportion of the parents of students from all samples were foreign born. Twenty-five percent of the Australian sample and nineteen percent of the Canadian sample reported both parents foreign born. The figures were five and twelve percent for the United States and England, respectively.

Social class background of the respondents as reflected in highest educational attainment of household head, showed little variation among four samples, as seen in Tables Four and Five. Although two scales were used it can be seen that considerable similarity exists when

TABLE 2. - FAMILY SIZE AS REFLECTED BY NUMBER OF SIBLINGS IN FAMILIES OF RESPONDENTS BY COUNTRY, SEX, AND LEVEL OF EDUCATIONAL ATTAINMENT (IN PERCENT OF THOSE RESPONDING).

Country, Level and Sex	None	One	Two	Three	Four	Five or more	n
Canada							
Lower Male	5	26	27	18	10	14	221
Lower Female	3	20	28	21	12	16	241
Upper Male	6	20	27	19	12	16	227
Upper Female	7	26	21	20	11	15	251
Total	6	23	26	19	11	15	940
Australia							
Lower Male	4	28	22	33	2	11	54
Lower Female	5	13	39	23	7	13	44
Upper Male	4	30	31	19	14	2	67
Upper Female	4	22	40	16	8	10	50
Total	4	24	33	22	8	9	215
England							
Lower Male	11	22	22	11	14	20	210
Lower Female	9	26	25	15	12	13	214
Upper Male	14	44	27	8	5	2	261
Upper Female	11	44	29	9	4	3	186
Total	12	34	26	11	8	9	871
United States							
Lower Male	3	19	16	22	14	26	167
Lower Female	6	12	17	20	13	32	182
Upper Male	7	19	26	12	14	22	208
Upper Female	6	18	21	16	13	26	189
Total	6	17	20	17	14	26	746
All Countries	7	25	25	16	11	16	2772

TABLE 3. - NATIONAL ORIGIN OF PARENTS FOR EACH SAMPLE BY COUNTRY, SEX, AND LEVEL OF EDUCATIONAL ATTAINMENT (IN PERCENT OF THOSE RESPONDING)

Country, Sex and Level	Both Parents foreign-born	Father home-born	Mother home-born	Both Parents home-born	n
Canada					
Lower male	20	7	13	60	217
Lower female	17	8	11	64	240
Upper male	19	9	8	64	226
Upper female	20	8	15	57	251
Total	19	8	12	61	934
Australia					
Lower male	31	6	8	55	54
Lower female	20	16	9	55	44
Upper male	25	3	5	67	67
Upper female	20	8	6	66	50
Total	25	7	7	61	215
England					
Lower male	19	7	11	63	206
Lower female	18	11	8	63	212
Upper male	6	6	8	80	272
Upper female	6	8	8	78	185
Total	12	8	8	72	875
United States					
Lower male	5	3	2	90	163
Lower female	4	1	2	93	180
Upper male	6	1	3	90	206
Upper female	3	1	4	92	183
Total	5	1	3	91	732
All Countries	13	6	8	73	2756

TABLE 4. - EDUCATION OF HOUSEHOLD HEAD FOR CANADA AND UNITED STATES SAMPLES BY SEX AND LEVEL OF EDUCATIONAL ATTAINMENT (IN PERCENT OF THOSE RESPONDING)

Country and Level	Graduate Training	College	Some College	High School Graduate	Some High School	Junior High School	Less than 7 years	n
Canada								
Lower	5	6	7	18	27	28	9	457
Upper	6	6	10	20	23	25	10	479
Total	5	6	9	19	25	26	10	936
United States								
Lower	6	6	16	35	25	9	3	346
Upper	8	6	15	35	22	9	5	402
Total	7	6	15	35	24	9	4	748
Both Countries	6	6	12	26	25	18	7	1684

TABLE 5. - EDUCATION OF HOUSEHOLD HEAD FOR AUSTRALIA AND ENGLAND SAMPLES BY SEX AND LEVEL OF EDUCATIONAL ATTAINMENT (IN PERCENT OF THOSE RESPONDING)

Country and Level	University or Training College	Grammar School	Technical School	Secondary School	Primary or Elementary School	Other	n
Australia							
Lower	14	9	16	37	21	3	98
Upper	16	10	11	41	18	4	116
Total	15	10	14	39	19	3	214
England							
Lower	10	15	5	57	11	2	421
Upper	11	24	10	42	9	4	459
Total	10	20	8	49	10	3	880
Both Countries	11	18	9	47	12	3	1094

appropriate combinations of categories are combined. Unfortunately the meaning of this observation is not clear, since some important variations exist in the educational system of different countries. However, social class background as seen in occupational status of household head did show some variations (Table Six). The Hollingshead classification showed class background in occupational terms to be the lowest among the U. S. sample. Over all samples, a reasonably good distribution was achieved.

For the three countries reporting religious preference, some variation was observed. As shown in Table Seven an average of forty-three percent of the U. S. sample, twenty-five percent of the Canadian sample, and twelve percent of the English sample reported Catholicism as their preferred religion. Nearly a quarter of the British sample reported no religious preference. The proportion of Jews was negligible for all samples.

Since sport represents a sizeable proportion of all television programming, access to the medium is an obvious pre-requisite to some forms of secondary involvement. Table Eight gives the number of students reporting television receivers in their homes. Nearly all of the Canadian, English, and U. S. students responded affirmatively. A small proportion of the Australians (eleven percent), however, reported they did not have a set in their home.

In summary, although samples were drawn from four different countries, their basic situational characteristics, for the most part, did not differ greatly. For measures where groups did differ, it is conceivable that certain cross-national comparisons of the dependent variables may be affected. To control for this possibility the various situational

TABLE 6. - OCCUPATION OF HOUSEHOLD HEAD FOR EACH SAMPLE BY COUNTRY AND LEVEL OF EDUCATIONAL ATTAINMENT (IN PERCENT OF THOSE RESPONDING)

Country and Level	Executives and Major Professionals	Business Managers and Lesser Professionals	Small Business Personnel	Clerical, Sales, Technical	Skilled Manual Workers	Machine Operators, Semi-Skilled	Unskilled Workers	n (100%)
Canada								
Lower	6	12	17	22	22	16	5	463
Upper	8	13	14	22	23	16	4	475
Total	7	12	16	22	22	16	5	938
Australia								
Lower	12	17	25	22	17	3	4	99
Upper	3	22	27	22	14	9	3	114
Total	7	20	26	22	15	6	4	213
England								
Lower	3	6	8	13	30	39	1	401
Upper	6	15	21	21	22	14	1	451
Total	5	10	15	17	26	26	1	852
United States								
Lower	3	6	7	22	38	21	3	335
Upper	5	6	10	28	30	20	1	375
Total	4	6	9	25	34	20	2	710
All Countries	5	11	14	21	26	20	3	2713

TABLE 7. - RELIGIOUS PREFERENCE FOR CANADA, ENGLAND, AND THE UNITED STATES SAMPLES BY SEX AND LEVEL OF EDUCATIONAL ATTAINMENT (IN PERCENT OF THOSE RESPONDING)*

Country and Level	Catholic	Jewish	Protestant	None	Other	n
Canada						
Lower Male	22	1	64	10	3	217
Lower Female	24	2	71	2	1	241
Upper Male	34	1	53	10	2	223
Upper Female	28	2	62	5	3	249
Total	27	1	63	7	2	930
England						
Lower Male	19	1	58	13	9	201
Lower Female	20	0	64	11	5	204
Upper Male	5	1	50	40	4	269
Upper Female	4	2	63	24	7	180
Total	12	1	58	23	6	854
United States						
Lower Male	45	0	43	1	11	161
Lower Female	37	0	50	1	12	177
Upper Male	45	0	39	4	12	198
Upper Female	44	1	42	3	10	184
Total	43	0	44	2	11	720
All Countries	26	1	56	11	6	2504

*Data on religious preference is unavailable from the Australian sample.

TABLE 8. - PROPORTIONS OF HOMES WITH TELEVISION SETS BY COUNTRY, SEX, AND LEVEL OF EDUCATIONAL ATTAINMENT (IN PERCENT OF THOSE RESPONDING)

Country	Male			Female			Total		
	With	Without	n	With	Without	n	With	Without	n
Canada									
Lower	99	1	221	98	2	242	98	2	463
Upper	98	2	227	98	2	252	98	2	479
Total	98	2	448	98	2	494	98	2	942
Australia									
Lower	91	9	53	84	16	43	88	12	96
Upper	88	12	67	92	8	48	90	10	115
Total	89	11	120	88	12	91	89	12	211
England									
Lower	98	2	208	99	1	213	99	1	421
Upper	99	1	270	97	3	185	98	2	455
Total	99	1	478	98	2	398	99	1	876
United States									
Lower	99	1	166	100	0	181	100	0	347
Upper	100	0	208	99	1	189	99	1	397
Total	99	1	374	100	0	370	100	0	744
All Countries	98	2	1420	98	2	1353	98	2	2773

variables were included as independent variables in the several multivariate analyses undertaken, as reported in Chapters Five and Six.

III. Instruments

To acquire data for each of the dependent and independent variables of the main study, three inventories were prepared, taking advantage of the experience accrued from the Janesville Pilot Study. The inventories used in the main study, together with their major purposes were:

1. B.A.T. Scales: attitude and body-esteem scores from semantic differential scales.
2. General Information Inventory (G.I.N.): basic information, involvement and situational data.
3. SENAPS Scales: self-esteem, relation with father, and need for approval measures.

Each of these is reproduced in Appendix C. Together they required between forty and sixty minutes to complete. The nature of the dependent and independent variables contained within the three inventories together with procedures for operationalizing them, is given below.

Dependent Variables: Attitudes Toward Physical Activity

The concepts "attitude" and "physical activity" were defined for this study as follows:

> Attitude: a complex, but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular psychological object, whether it be concrete or abstract.
>
> Physical Activity: organized (structured) non-utilitarian (in an occupational or maintenance sense) gross human movement, usually manifested in active games, sports calisthenics and dance.

As indicated in Chapter One attitude toward seven dimensions of physical activity or seven "perceived instrumentalities" was assessed. (Kenyon, 1966b, 1968a). Based upon material reported elsewhere (Kenyon, 1968a) the rationale underlying each of the seven characterizations of physical activity is as follows:

1. *Physical Activity as a Social Experience*. Claims that participation can meet certain social needs of individuals have long emmanated from professional sources. It was postulated that lay opinion would be similar, that is, physical activity engaged in by groups of two or more is perceived by many as having some social value. To the extent that physical activity is play, Huizinga (1950) writes that such experiences provided opportunities for 'sharing something important.' Thus physical activity as a social experience was characterized by those physical activities *whose primary purpose is to provide a medium for social intercourse, i.e., to meet new people and to perpetuate existing relationships*. Although such events as school or college dances and bowling immediately come to mind, almost any physical activity can serve such a purpose, either incidently or by design.

2. *Physical Activity for Health and Fitness*. That a sizeable proportion of contemporary western people, whether active themselves or not, believe that physical activity has the capacity to enhance personal health, probably needs little documentation. The formation of the President's Council on Physical Fitness, the widely prevalent health studio, the writings of physical educators, and the statements of the medical profession, all serve to suggest that it is plausible to believe that many feel health through physical activity is both possible and desirable. Therefore, it was posited that some physical activity can be characterized *primarily by its contribution to the improvement of one's health and fitness*. Obviously, callisthenics and other conditioning exercises are for such a purpose, but conceivably, many activities could be similarly oriented.

3. *Physical Activity as the Pursuit of Vertigo*. The suggestion that certain physical activities can provide a medium for pursuing vertigo comes from Caillois (1961). Games based on the pursuit of vertigo

> . . . consist of an attempt to momentarily destroy the stability of perception and inflict a kind of voluptuous panic upon an otherwise lucid mind. In all cases, it is a question of surrendering to a spasm, seizure, or shock which destroys reality with sovereign brusqueness . . . .

> Various physical activities . . . provoke these sensations, such as the tight rope, falling or being projected into space, rapid rotations, sliding, speeding, and acceleration of vertilinear movement separately or in combination with gyrating movement.
> . . . men surrender to the intoxication of many kinds of dance, from the common but insidious giddiness of the waltz to the many mad, tremendous, (sic.) and convulsive movements of dances. They derive the same kind of pleasure from the intoxication stimulated by high speed on skis, motor cycles, or in driving sport cars. (23-25)

McIntosh (1963), has criticized Caillois' concept of games for the pursuit of vertigo pointing out that the sensation one receives on an amusement park device, (classified by Caillois as vertiginous), is not the same as an activity over which the participant has some control.

> Caillois' category of vertigo is thus seen not to be fundamental but to sub-divide within his classification of competition and chance depending on whether resourcefulness or resignation is the dominant factor. (p.126).

Despite such criticism, physical activity as the pursuit of vertigo has been retained as a category in the present model, since early empirical evidence showed it to have considerable promise. However, the chance element has been attenuated so that physical activity as the pursuit of vertigo is considered to be *those physical experiences providing, at some risk to the participant, an element of thrill through the medium of speed, acceleration, sudden change of direction, or exposure to dangerous situations, with the participant usually remaining in control*. In that he usually approaches vertigo without actually achieving it, the experience becomes the *pursuit* of vertigo. It is possible that the instrumental value here is latent. The participant may not recognize vertigo as the common elèment, but rather views sports such as skiing, diving from a high platform, heavy weather sailing, mountain climbing, sky diving, etc., as apparently unrelated.

4. *Physical Activity as an Aesthetic Experience*. The proposition is advanced here that many people believe that at least some forms of physical activity are generally pleasing to the eye, and have a capacity for satisfying aesthetic tastes. Although some may consider skilled movement as beautiful in a broad prospective from ballet to Olympic gymnastics, others would insist on a much narrower range of physical activities - perhaps restricted to the creative and expressive movements

primarily found in the dance. The important point is that physical activity is often perceived of as having *aesthetic value for the individual - that is activities are conceived of as possessing beauty or certain artistic qualities.*

5. *Physical Activity as Catharsis.* Upon analysis of the results *of using 'recreational activities'* as a category of physical activity, it became apparent that the concept is too nebulous to be useful, and that it does not sufficiently characterize the function of a certain kind of activity for the individual. It seemed that both these difficulties might be overcome by narrowing the conception to *physical activity perceived as providing a release of tension precipitated by frustration through some vicarious means. The notion that a reduction in tension is achieved by* expressing hostility and aggression, either directly by attacking the instigator of the frustration, or more commonly, through venting one's hostilities through some equivalent form of aggressive behavior, is the 'catharisis hypothesis' (Berkowitz, 1962). The use of catharsis in this sense, however, departs somewhat from the meaning the term has in the context of Greek drama. Nevertheless, writers from philosophers to psychiatrists, have, for some time, been employing 'catharsis' in a more general sense, often with respect to physical activity and sport. Despite the frequently made claims for catharsis through substitute aggression, including the use of play and sport, the findings of Berkowitz (1962) cast doubt upon the existence of the phenomenon. Again, however, what is important is whether or not physical activity is *perceived* as having a cathartic function, that is, the belief *that physical* activity can provide a release from frustration and so called pent up emotions created by pressures of modern living.

6. *Physical Activity as an Ascetic Experience.* The development *of this dimension was based upon the* argument that if sport provides a medium for the expression of superiority as McIntosh (1963) suggests, then those who aspire to high levels of achievement, regardless of the sport, recognize the need to delay gratification and to be able to endure long and strenuous periods of training. The associated punishment of the body (although seldom inflicting permanent damage is seen by some to be somewhat akin to religious asceticism. It would seem that contemporary sport provides an analogy. Championship performce today requires athletes to undergo a kind of "ascetic" experience whereby physical activity for him becomes *long, strenuous, and often painful training and stiff competition demanding a deferment of many gratifications.*

7. *Physical Activity as Chance.* That there is an element of *chance associated with many* games and physical activities is obvious. In view of the popularity of gambling based upon sport contests, it would not be surprising to find some persons preferring this aspect of physical activity to others. Moreover,

> there is some theoretical support for this contention (Caillois, 1961; Roberts and Sutton-Smith 1963; and Loy, 1968). Thus, for the purposes of this study, certain physical activities are considered as having a sizable chance element and that certain persons value this over other elements.

To assess attitudes toward each of the seven dimensions of physical activity, the semantic differential approach (Osgood, Suci, and Tannenbaum, 1957) was used, where each "perceived instrumentality" became a "concept." The same eight scales, each with seven positions (see Appendix C), were employed for each concept. The eight adjectival pairs were as follows:

good - bad
worthless - worthwhile
pleasant - unpleasant
sour - sweet
nice - awful
sad - happy
clean - dirty
relaxed - tense

The a priori weights for each scale were one through seven, or seven through one, depending upon the direction of evaluation. Using the entire sample (N = 3198) the scales were re-weighted for each concept using a reciprocating averages procedure (Baker, 1960) to maximize internal consistency. The new weights were used to generate a total score for each subject in each of the seven dimensions. Appendix D gives the weights for each scale used to generate the total scores for each attitude dimension. Hoyt reliability coeficients are given in Table Nine. For the total sample, which was the basis for all further analyses, these ranged from 0.784 for physical activity as a "social experience;" to 0.871 for physical activity as "chance". Table Ten gives the maximized Hoyt reliabilities separately for county, level, and sex.

TABLE 9 - HOYT RELIABILITIES OF EACH OF SEVEN SCALES ASSESSING ATTITUDE TOWARD PHYSICAL ACTIVITY FOR COUNTRY, SEX, AND LEVEL OF EDUCATIONAL ATTAINMENT COMBINED (N = 3198)

Scale (8 Items Each)	a priori Weights	Maximized Weights
1. Social	0.759	0.784
2. Health and Fitness	0.778	0.798
3. Pursuit of Vertigo	0.847	0.853
4. Aesthetic	0.857	0.869
5. Catharsis	0.839	0.849
6. Ascetic	0.853	0.852
7. Chance	0.868	0.871

TABLE 10. HOYT RELIABILITIES FOR EACH OF SEVEN SCALES ASSESSING ATTITUDE TOWARDS PHYSICAL ACTIVITY, SEPARATELY BY COUNTRY, SEX, AND LEVEL OF EDUCATIONAL ATTAINMENT

Scale and Country	Male Lower	Male Upper	Female Lower	Female Upper
Social				
Canada	.834 - .856*	.781 - .789	.826 - .856	.754 - .752
Australia	.540 - .667	.749 - .799	.731 - .806	.723 - .788
England	.759 - .816	.803 - .834	.669 - .765	.802 - .834
United States	.728 - .812	.693 - .797	.708 - .778	.756 - .816
Health and Fitness				
Canada	.803 - .817	.788 - .784	.831 - .828	.808 - .802
Australia	.694 - .752	.730 - .791	.782 - .790	.732 - .796
England	.710 - .777	.804 - .835	.778 - .801	.844 - .856
United States	.715 - .807	.764 - .844	.731 - .820	.770 - .836
Pursuit of Vertigo				
Canada	.845 - .854	.826 - .842	.872 - .870	.889 - .885
Australia	.763 - .802	.808 - .851	.855 - .865	.841 - .857
England	.782 - .826	.847 - .867	.853 - .864	.883 - .889
United States	.847 - .868	.813 - .839	.839 - .854	.887 - .894
Aesthetics				
Canada	.891 - .895	.862 - .870	.881 - .879	.798 - .827
Australia	.820 - .839	.863 - .884	.688 - .793	.787 - .849
England	.833 - .865	.849 - .878	.768 - .836	.719 - .822
United States	.857 - .875	.867 - .882	.814 - .857	.805 - .855
Catharsis				
Canada	.870 - .869	.838 - .851	.868 - .847	.816 - .829
Australia	.787 - .816	.842 - .854	.812 - .826	.760 - .805
England	.874 - .880	.810 - .836	.855 - .863	.804 - .838
United States	.838 - .868	.775 - .836	.860 - .866	.862 - .878
Ascetic				
Canada	.868 - .864	.818 - .807	.867 - .867	.868 - .867
Australia	.763 - .790	.854 - .861	.779 - .805	.830 - .849
England	.813 - .830	.858 - .865	.883 - .886	.883 - .887
United States	.857 - .862	.822 - .838	.866 - .872	.881 - .886
Chance				
Canada	.893 - .895	.873 - .882	.882 - .892	.853 - .874
Australia	.845 - .851	.819 - .832	.855 - .865	.826 - .848
England	.862 - .877	.837 - .852	.883 - .889	.868 - .873
United States	.872 - .891	.838 - .868	.893 - .896	.886 - .890

* The first coefficient represents the reliability based upon a priori weights; the second, upon maximized weights.

Dependent Variables: Involvement

Both primary and secondary involvement data were acquired through use of a questionnaire, containing, for the most part, forced choice items. The nature of these is best illustrated by referring the reader to the General Information Inventory in Appendix C. In addition, there were some open-ended questions, which were used to ascertain the favorite sport or activity of either the subject, his best friend (peer involvement), or his father or guardian. Also, hours of television viewing per week was determined using open-ended items.

Independent Variables: Dispositional

The dispositional or disposition-like measures that were treated as independent variables included: social values, body-esteem, need for approval, self-esteem, and relation with father. A brief description of each follows.

Social Values. Although time did not permit the administration of an interest inventory such as the Allport-Vernon-Lindzey *Study of Values*, an effort was made to ascertain, albeit crudely, the individual's dominant interests or social values. Drawing from the Allport-Vernon-Lindzey (1960) Typology, each of six general interests were identified and described briefly, with subjects indicating their degree of interest by responding on a three-point scale. The six values were "theoretical," "economic," "aesthetic," "social," "political," and "religious." The statements used to express each are given in Appendix C.

Self-Esteem. Since certain personality traits have been shown to be associated with attitude (Smith, Bruner, and White, 1956; Krech, Crutchfield and Ballachey, 1962; O'Brien, 1966), two somewhat gross traits were considered as independent variables, namely, two dimensions of the self-concept.

The manner in which one perceives or conceives of himself has long been of interest to behavioral scientists. However, upon examination, "self-concept" or "self-esteem" (Ziller, 1967) is a highly complex aspect of the personality. It has both congitive, i.e.., "self-awareness" or "self-knowledge," and affective components i.e., "self-esteem" or "self-regard" (Ajuriarguerra, 1965). It can be considered to have at least three and perhaps four orientations; the actual self (objective assessment), the perceived self (myself as I really am), the ideal self (myself as I would like to be), and the self as perceived to be perceived by others (myself as I think others see me). Traditionally, the concept has been dealt with at two levels of complexity, namely, the concept of one's self in general — the so-called self-concept -- and the concept of one's body -- the so-called body-image. Components of both have been considered for this study.

With respect to the nature of self-concept in general the literature reveals different interpretations, dependent upon the personality theory in which it is embedded - whether it be clinical, experimental, or social psychological. For this project the latter was chosen - thus, one's self-concept is the view of himself, derived from taking the role of significant others in social interactions (Kuhn, 1964). For this study only the affective dimension, i.e., "self-esteem," is considered. Thus, consistent with attitude theory, the self is thought of as an object toward which one has positive or negative feelings.

> When we speak of high self-esteem, then we shall simply mean that the individual respects himself, considers himself worthy; he does not necessarily consider himself better than others, but he definitely does not consider himself worse; he does not feel that he is the ultimate in perfection, but on the contrary, recognizes his limitations and expects to grow and improve.

> Low self-esteem, on the other hand, implies self-rejection, self-dissatisfaction, self-contempt. The self-picture is disagreeable, and he wishes it were otherwise (Rosenberg, 1965:31).

Self-esteem has been associated with a number of other personal traits. Rosenberg (1965) has found that adolescents with low self-esteem tend to be more "anxious," "shy," "docile," "awkward," and "neurotic," while the person with high self-esteem tends to be free of these traits. Participation in extra-curricular activities and school clubs tend to be by those with high self-esteem. Of particular significance for the study of vertiginous physical activity, is the inverse relationship between self-esteem and "inconspicuousness;" that is, people who are "inordinately subdued, inactive, and apathetic" have low self-esteem; they were "outstanding in their social invisibility" (Ibid., p. 26).

For this study self-esteem was assessed using a Guttman scale developed by Rosenberg (1965). For High School students he reports a co-efficient of reproducibility of 92 percent and a test-retest reliability of 0.85. The scale is made up of the first ten items in the SENAPS Inventory given in Appendix C.

Body-Esteem. Another approach to understanding the self has been to restrict the self object to the body or one's physical self -- the "body concept." It has been referred to variously as "body image," "body schema," "body percept," and "corporeal awareness" (Critchley, 1965). Body concept then is the

> ... systematic impression an individual has of his body, cognitive and affective, conscious and unconscious, formed in the course of growing up. (Witkin, 1965:23).

Although body concept is obviously less general than self-concept, considerable complexity remains; a situation quickly revealed upon examination of the literature, which contains a wide variety of interpretations and points of view. Fisher and Cleveland (1966) summarized these as follows: Body anxiety, body dissatisfaction, concept of body size, plasticity of body scheme, position of body in space, preferred body proportions, differentiation of values assigned to right and left body sides, and gender designations of various body regions. For the present study, however, only the affective elements of body concept have been considered, i.e., "body-esteem." Although not a widely used term, it seems appropriate to describe the affective component of body concept. Just as self-esteem is considered as one's attitude toward his self as a psychological object, body-esteem, more particularly is one's attitude toward his body. The construct remains somewhat broad, of course, implying that there is a substantial general factor underlying all manifestations of the feeling one has for his body.

The degree to which body concept has been related to other aspects of the personality may provide clues as to the relationships between body-esteem and attitude toward and involvement in sport and physical activity. For example, Secord and Jouard (1953) found low body cathexis is associated with insecurity and anxiety, in the form of undue autistic concern with pain, disease and bodily injury.

A measure of body-esteem was acquired from the use of semantic differential scales and based upon a similar rationale to Rosenberg's concept of self-esteem. That is, body-esteem was considered as attitude toward one's body. However, two dimensions of body-esteem were ascertained. The first, "My body as I would like to see it," or ideal body image;

and the second, "My body as it really is," or perceived body image. In an effort to provide data for a later study the three major dimensions of meaning, namely, "evaluation," "potency" and "activity," as described by Osgood, Succi and Tannebaum (1957), were assessed for both ideal and perceived body-image. However, the data for the present study were restricted to *perceived body-image* on the *evaluative* dimension only, thus *body-esteem*.

Table Eleven provides Hoyt reliabilities for body-esteem scales based on both *a priori* and maximized weights. The eight evaluative adjectival pairs used were as follows:

ugly - beautiful
graceful - awkward
clean - dirty
light - heavy
feeble - vigorous
free - restricted
hot - cold
fast - slow

The complete set of adjectives is given in Appendix C as part of the B.A.T. Inventory.

Need for Approval. Based upon response styles observed among subjects responding to personality inventories, Crowne and Marlowe (1964) have developed from within a context of social learning theory, a construct entitled "need for approval:"

" . . . individuals who depict themselves in very favorable terms on the scale can be understood as displaying a social-desirability response set." (*Ibid*., p.22). Persons who display such social desirability, or approval need, " . . . are more conforming, cautious, and persuasible, and their behavior is more normatively anchored, than persons who depict themselves less euphemistically." (*Ibid*., p.189). In relation to the attitude and

TABLE 11 - HOYT RELIABILITIES FOR BODY-ESTEEM SCALE BASED UPON A PRIORI AND MAXIMIZED WEIGHTS BY COUNTRY, SEX AND LEVEL OF EDUCATIONAL ATTAINMENT (N=3099)

Country and Level	Male		Female	
	A Priori	Maximized	A Priori	Maximized
Canada				
Lower	.751	.775	.694	.726
Upper	.791	.805	.678	.730
Australia				
Lower	.617	.756	.570	.699
Upper	.604	.774	.556	.711
England				
Lower	.640	.767	.680	.728
Upper	.681	.746	.661	.732
United States				
Lower	.684	.783	.733	.779
Upper	.625	.765	.724	.785
For Country, Sex and Level Combined	a priori = .672		Maximized = .718	

activity constructs used in this study, it was expected that an individual with high approval need would likely express positive attitude toward physical activity perceived as a social experience, and as catharsis, but a less positive attitude toward activity as an ascetic experience, since the thought of engaging in highly competitive activities would make vulnerable one's self-esteem. The same should be reflected in the nature of his primary and secondary involvement.

The Marlowe-Crowne Social Desirability Scale consists of thirty-three statements to which the subject responds true or false. The internal consistency of the scale has been estimated to be 0.88 (K-R 20). A test-retest correlation of 0.88 was obtained with a one month interval between tests. (*Ibid.*, pp.24-25). The complete set of items appears in Appendix C as part of the SENAPS inventory.

Relation with Father. In connection with his work on self-esteem, Rosenberg developed another scale purporting to measure "closeness of father-child relationships." "In general, this score was designed to reflect whether the child felt as close, or closer, to his father or to his mother . . . . " (Rosenberg, 1965:42-43) Those with a close relationship with fathers appear to have a higher self-esteem. Thus, attitudes and high participation factors associated with high self-esteem might be expected to be further augmented by a close relationship with father. Also, it might be expected that those with a close relationship with their father might choose more traditionally masculine oriented activites.

The relationship-with-father score was based upon the unweighted sum of "positive" responses to six items. The items and the cutting points were based upon the work of Rosenberg and three colleagues (*Ibid.*, p.44). No reliability information was supplied. The scale is reproduced in Appendix C as part of the SENAPS inventory.

Independent Variables: Situational

A number of background and situational measures were acquired from each subject. The level of educational attainment was determined in advance by sampling at two levels: the fourth and sixth forms in England, the third and fifth forms in Australia, and grades ten and twelve in Canada and the United States. The lower level of educational attainment represented students whose age was approximately 15, while the upper level represented students whose age was 17 to 18. Age (in months) was determined also by questioning, as was family size, birth order, and national origin of parents.

Since involvement in physical activity is known to be associated with social class under certain conditions, social class background was determined using Hollingshead's Two Factor approach (1957). To determine educational background, students responded to a structured question asking them to indicate the highest level of attainment of the head of their household. A two stage open-ended question asking for the occupation of the household head was presented next. Using the information thus provided, occupations were classified according to the Hollingshead procedure. No attempt was made to combine education and occupation measures into a weighted index, since it was felt that treating these variables separately would permit less ambiguous interpretations of the findings. Data indicating religious preference and religious attendance were acquired using structured questions for this purpose. The declaration of one's religion was contrary to policy of the Perth School System and consequently no religious data were obtained for the Australian sample.

The reader is again referred to Appendix C where the format of the questions relating to the above variables can be seen.

IV. Collection and Analysis of Data

Collection Procedures

All data were collected using standardized instruments and procedures formulated at the outset of the study. Appendix E contains a description of procedures for sampling of the four sub-populations, and for administering the inventories.

Data for the Birmingham phase of the study were collected by the investigator in April, 1966 with the cooperation of both City of Birmingham Education Committee officials and personnel from the participating schools. Plans for collecting data in Canada and Australia were made in a conference held in Edmonton, Alberta, in January, 1966, at which persons responsible for the Canadian and Australian phase were present. The Canadian data were actually collected in May, 1966 under the supervision of Mr. Darwin Semotiuk. The Australian data were acquired later in 1966 by persons in the Perth, Australia school system, who administered inventories in accordance with instructions provided by Mr. Kevin Collins. Although Mr. Collins was not able to be in Perth at the time, he was familiar with the school system there, and thus every effort was made to standardize procedures. Data for the United States phase were collected in December, 1966 by the investigator and Dr. John W. Loy, Jr., with the cooperation of school officials in Cleveland, Ohio.

The three inventories administered to each subject for each sample, were collected in either Edmonton, Alberta (for the Australian and

Canadian phases), or Madison, Wisconsin (for the English and U. S. phases) where data were coded and transferred to punched cards. The Canadian and Australian data were subsequently transferred to Madison, combined with the English and U. S. data, and analyzed in accordance with the objectives of the study.

Analysis Procedures

Coding of the inventories was performed according to a preplanned Code Manual; a copy of which is given in Appendix F. The coding procedures were similar for each phase of the study. However, in Birmingham and Edmonton, the semantic differential data were acquired by having subjects write directly on the inventories; thus necessitating their transfer to punched cards as a separate step. However, for the Perth and Cleveland phases, seven-alternative Digitek[6] forms were used to permit automatic machine punching of cards directly from the answer sheets using optical scanning equipment.

In an effort to eliminate those subjects who did not understand the instructions, or who willfully chose not to co-operate, response styles were checked by analyzing the consistency of response to the semantic differential scales on the B.A.T. inventory. If a subject responded positively on a positive scale and positively on a negative scale three or more times, his data were eliminated from the analyses.

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[6] Digitek Optical Scanning Systems, Fairless Hills, Pa.

A number of analytic techniques were employed in an effort to satisfy the objectives of the study. These are described below, corresponding with the chapter structure for the remainder of the report.

Cross-National Differences in Attitudes Toward Physical Activity. To determine differences in attitude toward each of the seven dimensions of physical activity a three-way factorial analysis of variance was performed using maximized total scores generated from the semantic differential data. Thus, the significance of differences by country, by sex, and by level of educational attainment, together with first and second order interactions were determined.

In addition to examining differences for each attitude dimension, a further analysis was performed whereby a comparison of the relative strength among all attitudes was carried out using a two-way factorial model (sex x attitude) with repeated observations on one dimension. This was possible since the semantic differential can be considered as a "generalized attitude scale" (Osgood, Suci, and Tannebaum, 1957). The results for both approaches are reported in Chapter Three.

Cross National Differences in Involvement in Physical Activity. To determine differences by country, level of educational attainment, and sex, cross-tabulation procedures were used on each measure of primary and secondary involvement. Differences were tested for significance using chi-square. The findings are described in Chapter Four.

Correlates of Attitude. As discussed above, certain dispositional and situational factors were expected to be correlated with attitude toward various aspects of physical activity. Since this was an exploratory study, however, all independent and dependent variables were first intercorrelated, in an effort to determine whether variables other than those postulated to be associated with a particular attitude dimension might be included in subsequent analyses. Upon inspection of the resulting intercorrelation matrix, variables were chosen for inclusion in an analysis using a non-symetrical branching process (automatic interaction detection) based upon variance analysis techniques, wherein the sample is sequentially subdivided into a series of subgroups which maximize one's ability to predict values of the dependent variable (Sonquist and Morgan, 1964). This approach is appropriate, not only because of its multivariate nature, but also because it requires no assumptions regarding linearity and additivity, which are inherent in multiple regression procedures. Thus for each attitude dimension such analyses were made, separately for each country. The results are described in Chapter Five.

Correlates of Involvement. In an effort to explain involvement, both primary and secondary, two basic procedures were used. For continuous variables, an automatic interaction detection analysis was performed, following the procedure described above. For variables on ordinal or nominal scales, multivariate discriminant analyses were carried out to determine the degree to which certain combinations of variables can separate groups according to their differential involvement in sport and physical activity. Again the intercorrelation matrix of all independent and dependent variables was used in the final selection of variables to be included in the discriminant functions. The findings are reported in Chapter Six.

In summary, three inventories containing items designed to elicit attitude and involvement data, together with certain dispositional and situational information, were administered to approximately 1000 secondary school students from an urban center in each of four countries, Canada, Australia, England, and the United States. Usable data were subsequently analyzed both to determine cross-national differences in attitude toward, and involvement in various forms of physical activity, and to explore the degree to which certain dispositional and situational variables are able to explain attitude and involvement.

CHAPTER THREE

ATTITUDE TOWARD PHYSICAL ACTIVITY

The purpose of this chapter is to report the results of cross-national comparisons of attitude toward each of seven dimensions of physical activity. The findings are presented separately for each attitude dimension, with the separate and joint effects of country, level of educational attainment, and sex taken into consideration. In addition a comparison among the seven attitude measures is presented, in an effort to ascertain the relative strength of affect over all dimensions. The later analysis was possible since the semantic differential, the approach chosen to assess attitude for this study, may be considered as a "generalized attitude scale" (Osgood, Suci, and Tannenbaum, 1957).

I. Attitude Toward Physical Activity: Separately for Each Dimension

Data for each of the seven dimensions of attitude toward physical activity were subjected to a three-way factorial analysis of variance. Thus the significance was determined for differences among countries, between levels of educational attainment, between sexes, and for first and second-order interactions.

Attitude Toward Physical Activity as a Social Experience. Table Twelve shows means and standard deviations for each group on measures of attitude toward physical activity as a social experience. The results of the three-way factorial analysis are given in Table Thirteen. It is readily seen that no national differences were large enough to be considered statistically significant; likewise with differences between two levels of educational attainment. A sex difference was observed ($p < .005$) with females possessing a more positive attitude than males when activity is perceived as a social experience. Considering $p = .05$ as a critical level, there were no significant interactions.

Attitude Toward Physical Activity as Health and Fitness. Means and standard deviations of scores representing attitude toward physical activity perceived as health and fitness are given for each sub-sample in Table Fourteen. The results of a three-way analysis of variance on these data are presented in Table Fifteen. Several differences were observed. While all countries reported a positive attitude,[1] the Australian students were lower on the scale than those of the other three countries, who seemed to cluster together. Females possessed more positive attitudes than males ($p < .005$), but the actual score difference was not marked. A significant country by level interaction was observed ($p < .005$), which seems to be accounted for by Canada and the U.S. reporting a more positive attitude from their upper level students, while Australia and England reported more positive attitudes from samples representing students at a lower level of educational attainment.

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[1] Since there were eight 7-position semantic differential scales a neutral score for each attitude dimension would be 8 x 4 = 32, assuming *a priori* weights. Upon inspection of the new weights (Appendix D) this value or one near to it appears to retain a similar meaning.

TABLE 12.- MEANS AND STANDARD DEVIATIONS OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Country and Level	Male		Female		Total	
	$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s
Canada						
Lower	45.2	7.3	45.8	7.3	45.5	7.3
Upper	46.0	5.9	46.9	5.8	46.4	5.8
Total	45.6	6.7	46.3	6.6	46.0	6.6
Australia						
Lower	44.4	5.4	46.4	6.2	45.4	5.8
Upper	44.7	6.6	45.4	6.1	45.1	6.4
Total	44.5	6.1	45.9	6.1	45.2	6.1
England						
Lower	44.7	7.0	47.4	5.1	46.0	6.2
Upper	44.8	6.0	46.4	5.8	45.6	5.9
Total	44.8	6.4	46.9	5.5	45.8	6.1
United States						
Lower	44.6	6.6	46.0	5.9	45.3	6.2
Upper	45.1	6.1	47.0	6.4	46.0	6.5
Total	44.8	6.4	46.5	6.3	45.7	6.4
Total	44.9	6.4	46.4	6.2	45.6	6.3

TABLE 13 - THREE-WAY FACTORIAL ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG COUNTRIES, AND BETWEEN SEXES AND LEVELS: ATTITUDE TOWARD PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Source	d.f.	Mean Square	F	P
Country	3	.4178	2.05	> .10
Level	1	.2025	< 1.00	
Sex	1	8.7888	43.04	< .005
C X L	3	.4827	2.36	< .10
C X S	3	.3508	1.72	> .10
L X S	1	.1813	< 1.00	
C X L X S	3	.2045	1.00	> .10
Error	3178	.2042		
Total	3193			

TABLE 14 - MEANS AND STANDARD DEVIATIONS OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS HEALTH AND FITNESS

Country and Level	Male		Female		Total	
	X̄	s	X̄	s	X̄	s
Canada						
Lower	43.7	7.0	42.7	8.1	43.2	7.6
Upper	44.9	6.5	45.0	6.5	45.0	6.5
Total	44.3	6.8	43.9	7.4	44.1	7.1
Australia						
Lower	42.2	6.8	44.1	7.2	43.2	7.1
Upper	42.2	6.9	43.1	6.8	42.6	6.9
Total	42.2	6.8	43.6	7.1	42.9	7.0
England						
Lower	45.3	6.1	46.2	6.1	45.8	6.1
Upper	42.9	6.5	44.9	6.9	43.9	6.7
Total	44.1	6.4	45.6	6.5	44.8	6.5
United States						
Lower	43.5	6.9	45.2	6.8	44.4	6.9
Upper	44.9	6.9	45.4	6.7	45.1	7.1
Total	44.2	7.0	45.3	7.0	44.8	7.0
Total	43.7	6.8	44.6	7.0	44.1	6.9

TABLE 15 - THREE-WAY FACTORIAL ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG COUNTRIES, AND BETWEEN SEXES AND LEVELS: ATTITUDE TOWARD PHYSICAL ACTIVITY AS HEALTH AND FITNESS

Source	d.f.	Mean Square	F	P
Country	3	3.1724	13.05	< .005
Level	1	.0073	< 1.00	
Sex	1	3.1237	12.85	< .005
C X L	3	2.5110	10.33	< .005
C X S	3	.8172	3.36	< .05
L X S	1	.0000	< 1.00	
C X L X S	3	.4026	1.70	> .10
Error	3178	.2430		
Total	3193			

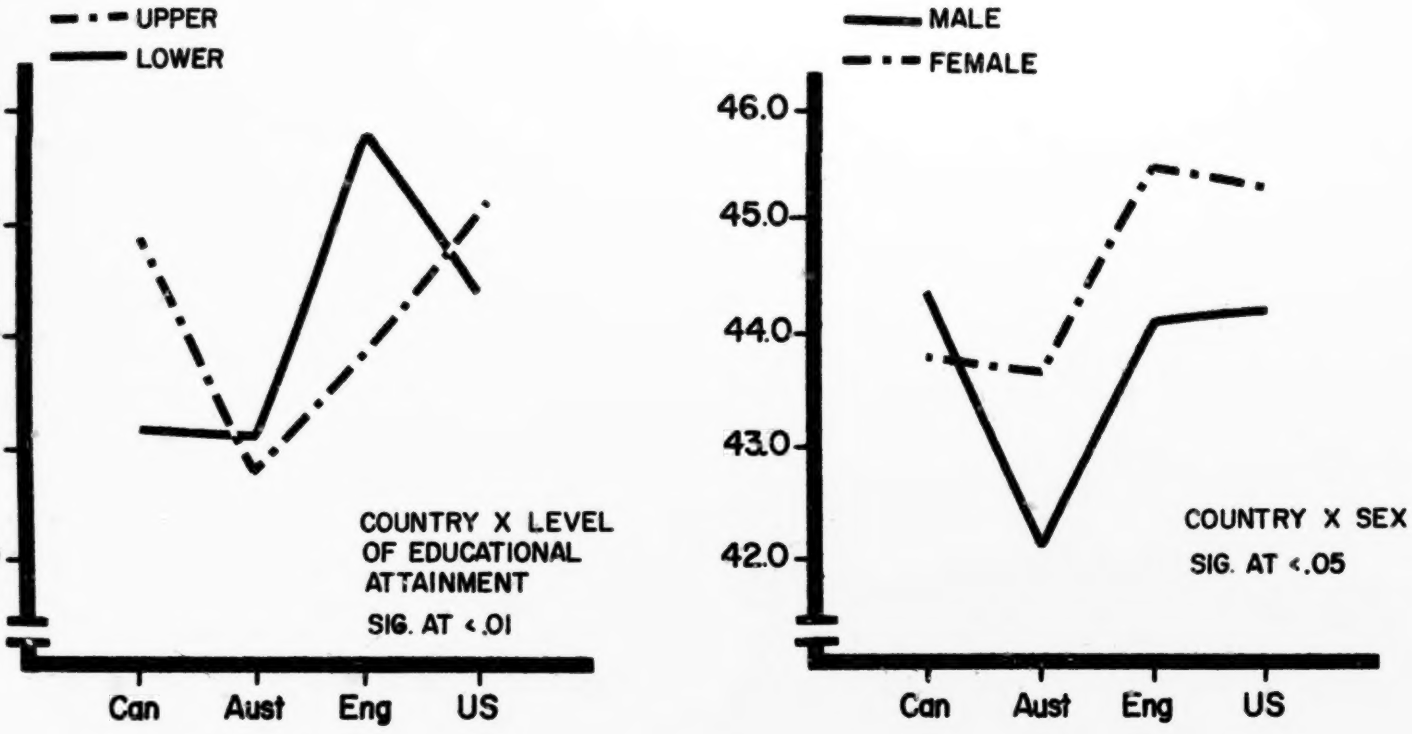

FIGURE I. ILLUSTRATION OF SIGNIFICANT INTERACTION EFFECTS FOR THREE-WAY FACTORIAL ANALYSIS OF VARIANCE OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY FOR HEALTH AND FITNESS

A country by sex interaction was also evident ($p < .05$), which can be explained by females expressing a more positive attitude than males in all countries except Canada, where the reverse was the case. The magnitude of these differences was small however and thus no special importance should be attached to this finding at this time. The interaction effects for this analysis are illustrated in Figure One.

Attitude Toward Physical Activity as the Pursuit of Vertigo. Descriptive statistics together with analysis of variance results for differences in attitude toward physical activity perceived as the pursuit of vertigo are given in Tables Sixteen and Seventeen. The means seemed to hover at a point slightly above the neutral position. The analysis of variance revealed significant F values for differences among countries and between sexes. Two of the three first-order interactions were also significant. The significant differences among countries ($p < .005$) can be attributed to the means for Canadian and English samples being somewhat higher than those for either the U.S. or Australian samples, with the Australians significantly lower than the Americans. Over all countries males expressed a more positive attitude toward physical activity perceived as the pursuit of vertigo than did females ($p < .005$). A significant country by sex interaction ($p < .05$) can be attributed to the fact that Canadian, Australian and English males were considerably higher than females but that the sex difference, while still in favor of the males, was far less for the United States sample. The significant level by sex interaction ($p < .005$) is the result of upper level males expressing a more positive attitude than lower level males, with upper level females expressing a

TABLE 16 - MEANS AND STANDARD DEVIATIONS OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO

Country and Level	Male		Female		Total	
	$\overline{X}$	s	$\overline{X}$	s	$\overline{X}$	s
Canada						
Lower	38.0	9.0	36.3	9.7	37.2	9.4
Upper	39.7	7.9	34.7	10.3	37.2	9.5
Total	38.9	8.5	35.5	10.0	37.2	9.5
Australia						
Lower	35.4	8.3	34.4	10.3	34.9	9.4
Upper	36.5	9.0	32.0	9.2	34.3	9.3
Total	35.9	8.7	33.3	9.9	34.6	9.4
England						
Lower	37.0	9.1	36.4	10.1	36.7	9.6
Upper	39.2	8.3	37.0	9.7	38.1	8.9
Total	38.1	8.7	36.7	9.9	37.4	9.3
United States						
Lower	36.4	9.9	36.2	9.6	36.3	9.8
Upper	36.9	9.1	35.4	9.8	36.1	9.6
Total	36.6	9.5	35.8	9.8	36.2	9.7
Total	37.4	8.8	35.3	9.9	36.4	9.5

TABLE 17 - THREE- WAY FACTORIAL ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG COUNTRIES, AND BETWEEN SEXES AND LEVELS: ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO

Source	d.f.	Mean Square	F	P
Country	3	6.5967	14.44	<.005
Level	1	.1023	< 1.00	
Sex	1	16.9760	37.16	<.005
C X L	3	.7427	1.63	>.10
C X S	3	1.3451	2.95	<.05
L X S	1	6.0967	13.57	<.005
C X L X S	3	.2757	< 1.00	
Error	3178	.4568		
Total	3193			

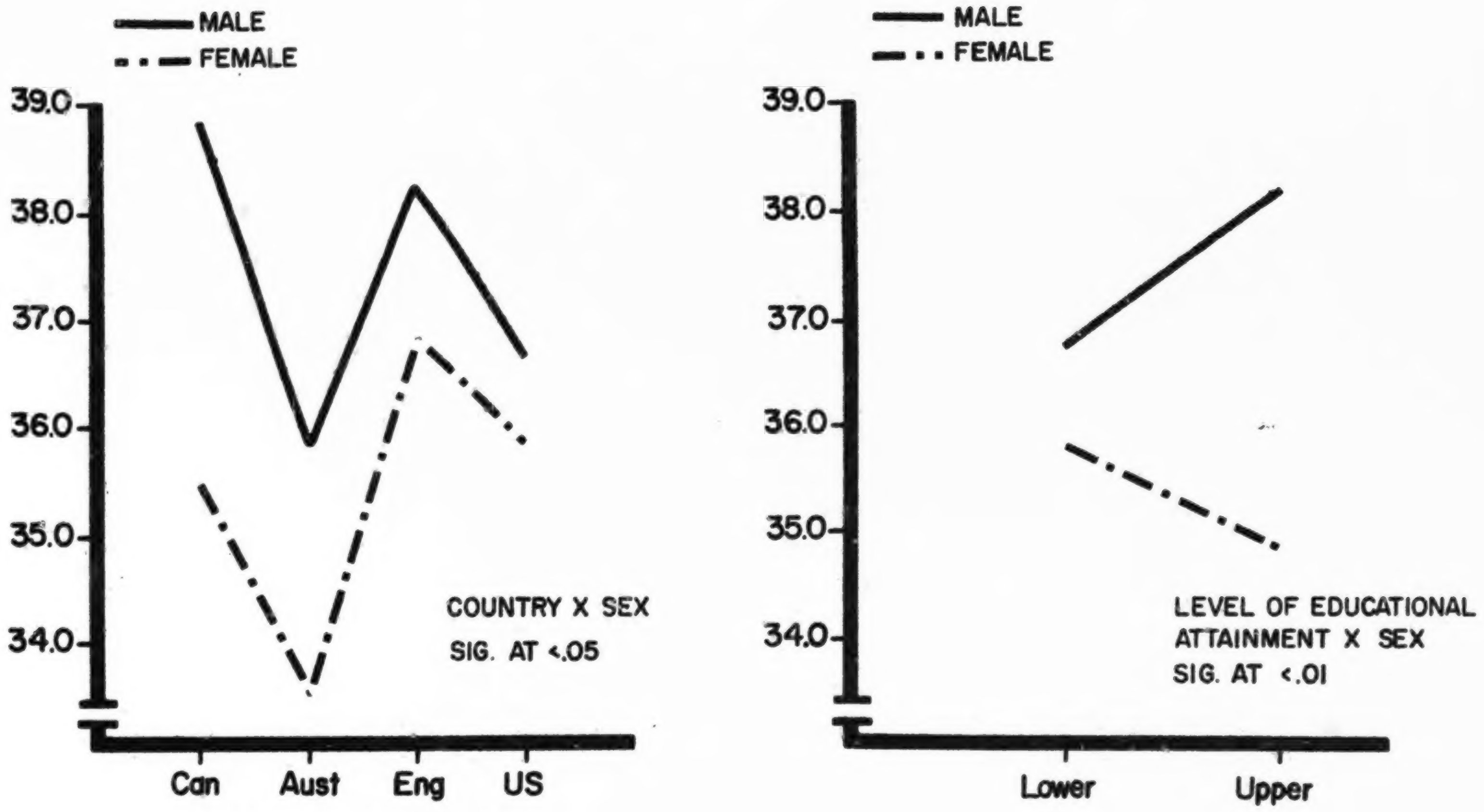

FIGURE 2. ILLUSTRATION OF SIGNIFICANT INTERACTION EFFECTS FOR THREE-WAY FACTORIAL ANALYSIS OF VARIANCE OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO

less positive attitude than lower level females. The significant interactions are shown in Figure Two.

Attitude Toward Physical Activity As an Aesthetic Experience. Table Eighteen gives the descriptive statistics for the several groups expressing their attitude toward physical activity perceived as an aesthetic experience. The analysis of variance (Table Nineteen) revealed a significant difference ($p < .005$) on the three main effects, country, level and sex. There were no significant interactions. For all countries mean attitudes scores were positive and higher for the upper level of educational attainment, and much higher for females than males. There were some slight national differences, with students from Canada and England expressing more positive attitudes than those from Australia and the U. S.

Attitude Toward Physical Activity as Catharsis. The descriptive and inferential statistics for data representing attitudes held towards physical activity perceived as catharsis are given in Tables Twenty and Twenty-One. The result of the analysis of variance is most complex with all main effects and all interactions being significant. Although students from the four countries expressed a positive attitude toward physical activity as catharsis, the means for the Australian and U. S. samples were somewhat below those of Canada and England ($p < .005$). Females expressed a slightly more positive attitude than males ($p < .005$), and those groups representing the upper level of educational attainment expressed more positive attitudes than those representing the lower level ($p < .005$). A significant country by level interaction (See Figure Three) can be attributed to a relatively small difference between the

TABLE 18 - MEANS AND STANDARD DEVIATIONS OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE

Country and Level	Male		Female		Total	
	$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s
Canada						
Lower	42.4	10.1	47.9	8.2	45.1	9.6
Upper	43.7	8.9	49.6	5.6	46.7	7.9
Total	43.1	9.5	48.7	7.1	45.9	8.8
Australia						
Lower	40.7	9.8	46.8	6.6	43.8	8.8
Upper	43.0	9.6	48.6	6.8	45.8	8.9
Total	41.9	9.7	47.7	6.7	44.8	8.9
England						
Lower	43.1	9.1	49.2	5.5	46.2	8.1
Upper	43.5	7.9	49.6	4.7	46.6	7.4
Total	43.3	8.5	49.4	5.1	46.4	7.8
United States						
Lower	41.6	10.1	47.0	8.2	44.3	9.5
Upper	42.5	10.3	49.0	6.5	45.8	9.7
Total	42.1	10.3	48.0	7.7	45.0	9.6
Total	42.6	9.5	48.5	6.6	45.4	8.7

TABLE 19 - THREE-WAY FACTORIAL ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG COUNTRIES, AND BETWEEN SEXES AND LEVELS: ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE

Source	d.f.	Mean Square	F	P
Country	3	2.1678	6.22	< .005
Level	1	7.4531	21.37	< .005
Sex	1	138.2623	396.51	< .005
C X L	3	.4870	1.40	> .10
C X S	3	.0283	< 1.00	
L X S	1	.0599	< 1.00	
C X L X S	3	.1297	< 1.00	
Error	3178	.3487		
Total	3193			

TABLE 20 - MEANS AND STANDARD DEVIATIONS OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS

Country and Level	Male		Female		Total	
	$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s
Canada						
Lower	45.3	8.3	46.0	8.2	45.6	8.2
Upper	45.1	8.0	47.0	6.7	46.0	7.4
Total	45.2	8.1	46.5	7.5	45.8	7.8
Australia						
Lower	42.0	8.6	44.4	8.2	43.2	8.4
Upper	44.7	8.0	45.6	6.7	45.2	7.5
Total	43.3	8.4	45.0	7.5	44.2	8.0
England						
Lower	44.2	9.6	46.0	7.7	45.1	8.7
Upper	46.5	6.2	44.7	7.3	45.6	6.7
Total	45.4	7.9	45.3	7.5	45.3	7.7
United States						
Lower	40.9	9.8	44.7	9.1	42.8	9.4
Upper	45.5	7.6	45.9	8.2	45.7	7.7
Total	43.2	8.6	45.3	8.7	44.3	8.6
Total	44.3	8.2	45.5	7.8	44.9	8.1

TABLE 21 - THREE-WAY FACTORIAL ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG COUNTRIES, AND BETWEEN SEXES AND LEVELS: ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS

Source	d.f.	Mean Square	F	P
Country	3	2.6294	7.88	<.005
Level	1	8.7071	26.11	<.005
Sex	1	6.3773	19.12	<.005
C X L	3	1.4811	4.44	<.005
C X S	3	.8801	2.64	<.05
L X S	1	3.4192	10.25	<.005
C X L X S	3	1.2557	3.77	<.05
Error	3178	.3335		
Total	3193			

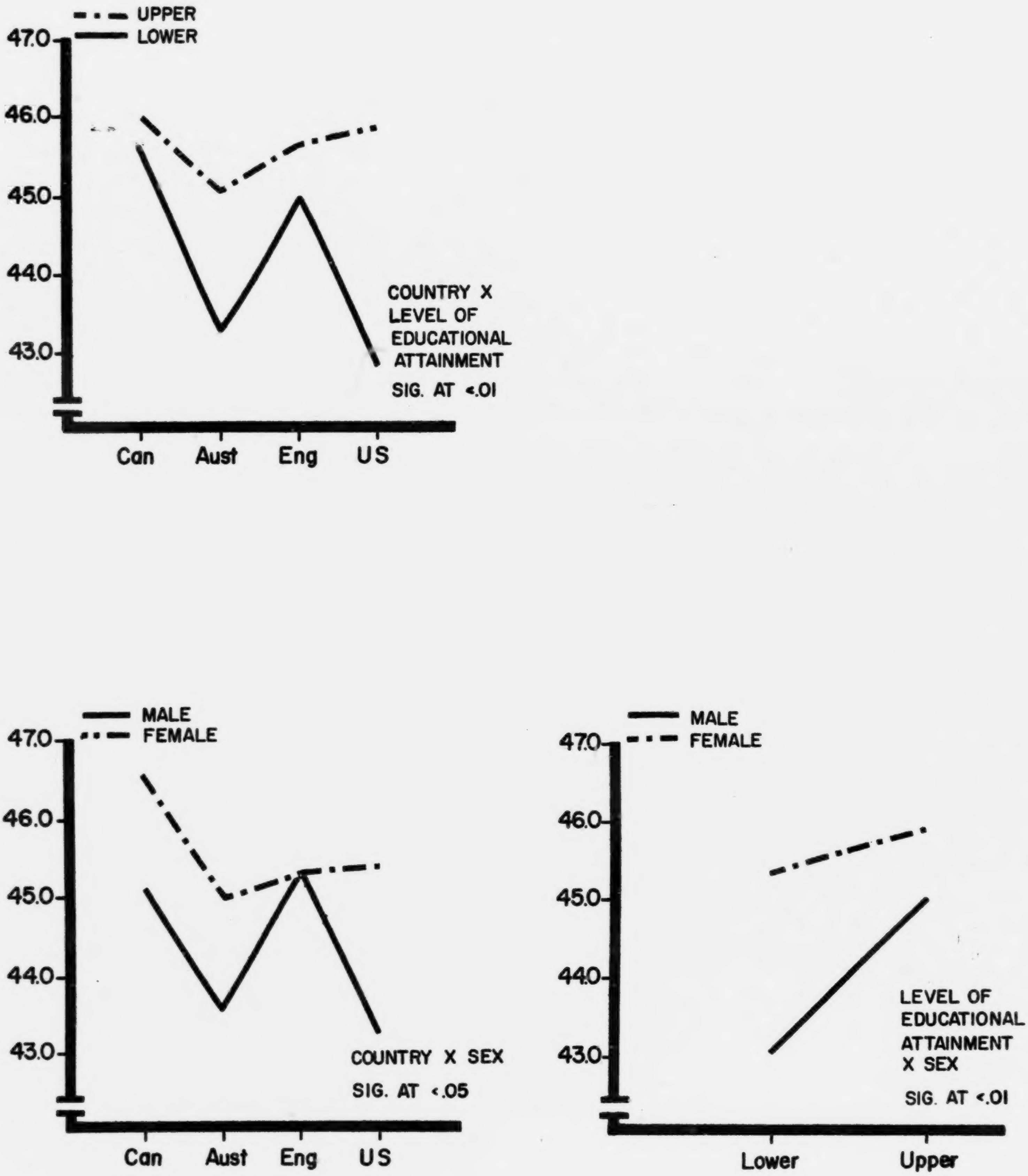

FIGURE 3. ILLUSTRATION OF SIGNIFICANT INTERACTION EFFECTS FOR THREE-WAY FACTORIAL ANALYSIS OF VARIANCE OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS

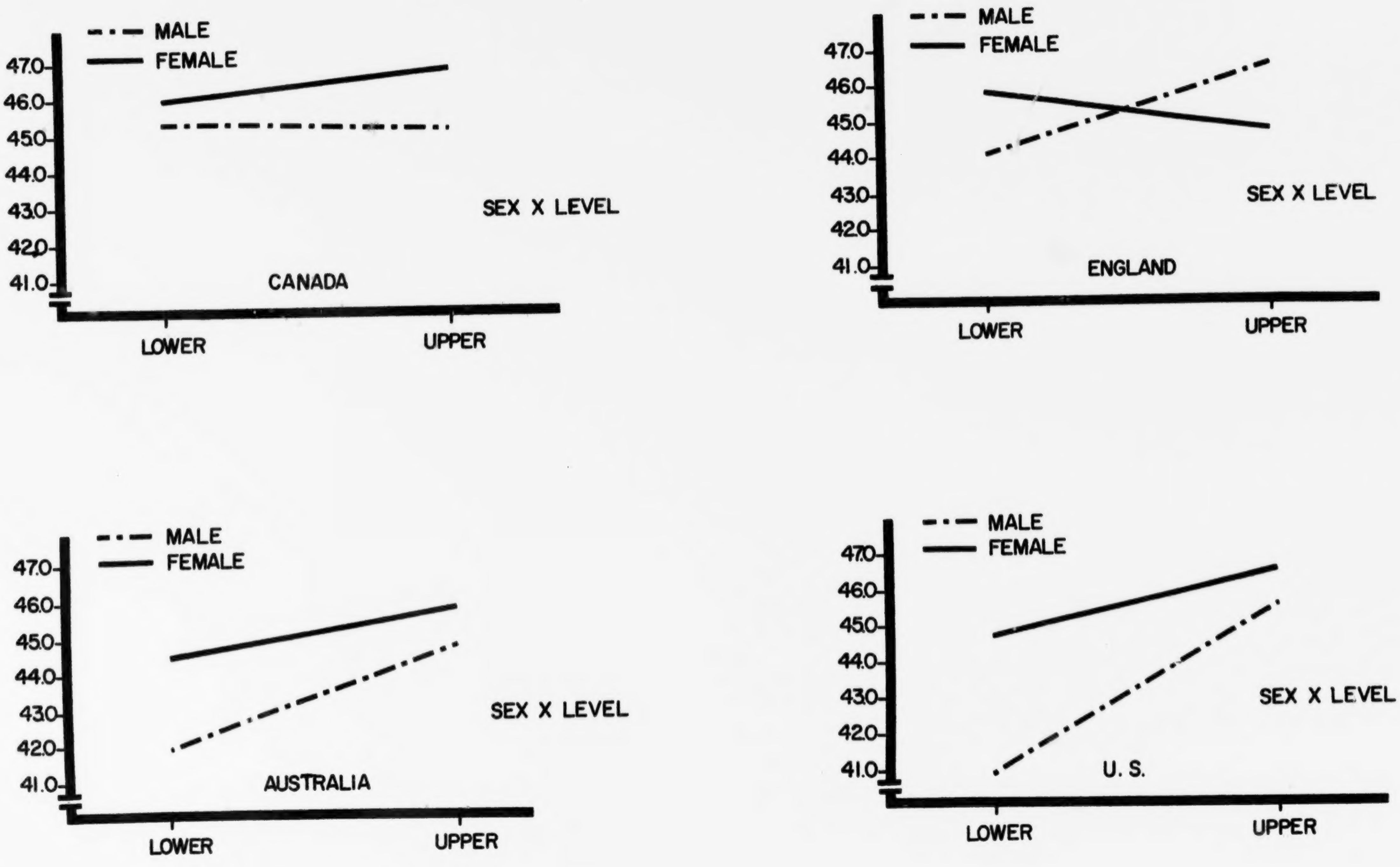

FIGURE 3 continued. THREE-WAY INTERACTION: SEX BY LEVEL FOR EACH COUNTRY.

two levels for the Canadian and English samples as compared to a relatively large difference between the two levels for those groups representing Australia and the United States ($p < .005$). The country by sex interaction can be attributed to the fact that females were somewhat higher than males in all countries except England where they were nearly alike ($p < .05$). A significant level by sex interaction ($p < .005$) seems to be the result of a smaller difference between sexes at the upper level of educational attainment than at the lower level. A significant country by level by sex interaction was also observed ($p < .05$). The interpretation of this observation is perhaps best accomplished by referring the reader to Figure Three and Table Twenty.

Attitude Toward Physical Activity as an Ascetic Experience. The results of the comparative analysis are given in Tables Twenty-two and Twenty-three. A significant difference among countries was observed ($p < .005$). Although all means hovered around the neutral point, the Canadian sample expressed the most positive attitude while the Australian sample the least positive. The English and United States samples were somewhere in between. The difference between levels was not significant. However, males were slightly more positive in their attitude than females ($p < .005$). One significant interaction was observed, namely, country by level ($p < .01$). This seems to have resulted from the fact that the lower level of the Australian and English samples expressed a slightly more positive attitude than their respective upper levels. A more marked difference and in the reverse direction was observed for the Canadian and United States samples. Figure Four illustrates this interaction effect.

TABLE 22 - MEANS AND STANDARD DEVIATIONS OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE

Country and Level	Male		Female		Total	
	$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s
Canada						
Lower	33.4	9.6	31.4	9.8	32.4	9.8
Upper	35.1	8.0	34.4	9.1	34.7	8.6
Total	34.3	8.9	32.9	9.6	33.6	9.3
Australia						
Lower	30.0	8.4	30.9	8.3	30.4	8.4
Upper	30.6	9.3	29.3	8.7	30.0	9.0
Total	30.3	8.9	30.1	8.5	30.2	8.7
England						
Lower	32.5	9.6	32.0	10.6	32.2	10.1
Upper	31.9	8.9	31.3	9.5	31.6	9.1
Total	32.2	9.2	31.7	10.1	31.9	9.6
United States						
Lower	33.7	9.9	31.8	10.2	32.7	10.1
Upper	35.4	9.4	32.3	10.3	33.8	10.1
Total	34.6	9.7	32.0	10.3	33.3	10.1
Total	32.8	9.2	31.7	9.6	32.3	9.5

TABLE 23 - THREE-WAY FACTORIAL ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG COUNTRIES, AND BETWEEN SEXES AND LEVELS: ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE

Source	d.f.	Mean Square	F	P
Country	3	9.5511	22.83	<.005
Level	1	1.3515	2.92	<.10
Sex	1	5.3019	13.62	<.005
C X L	3	1.9418	4.20	<.01
C X S	3	1.0596	2.29	<.10
L X S	1	.2763	< 1.00	
C X L X S	3	.6112	1.32	>.10
Error	3178	.4626		
Total	3193			

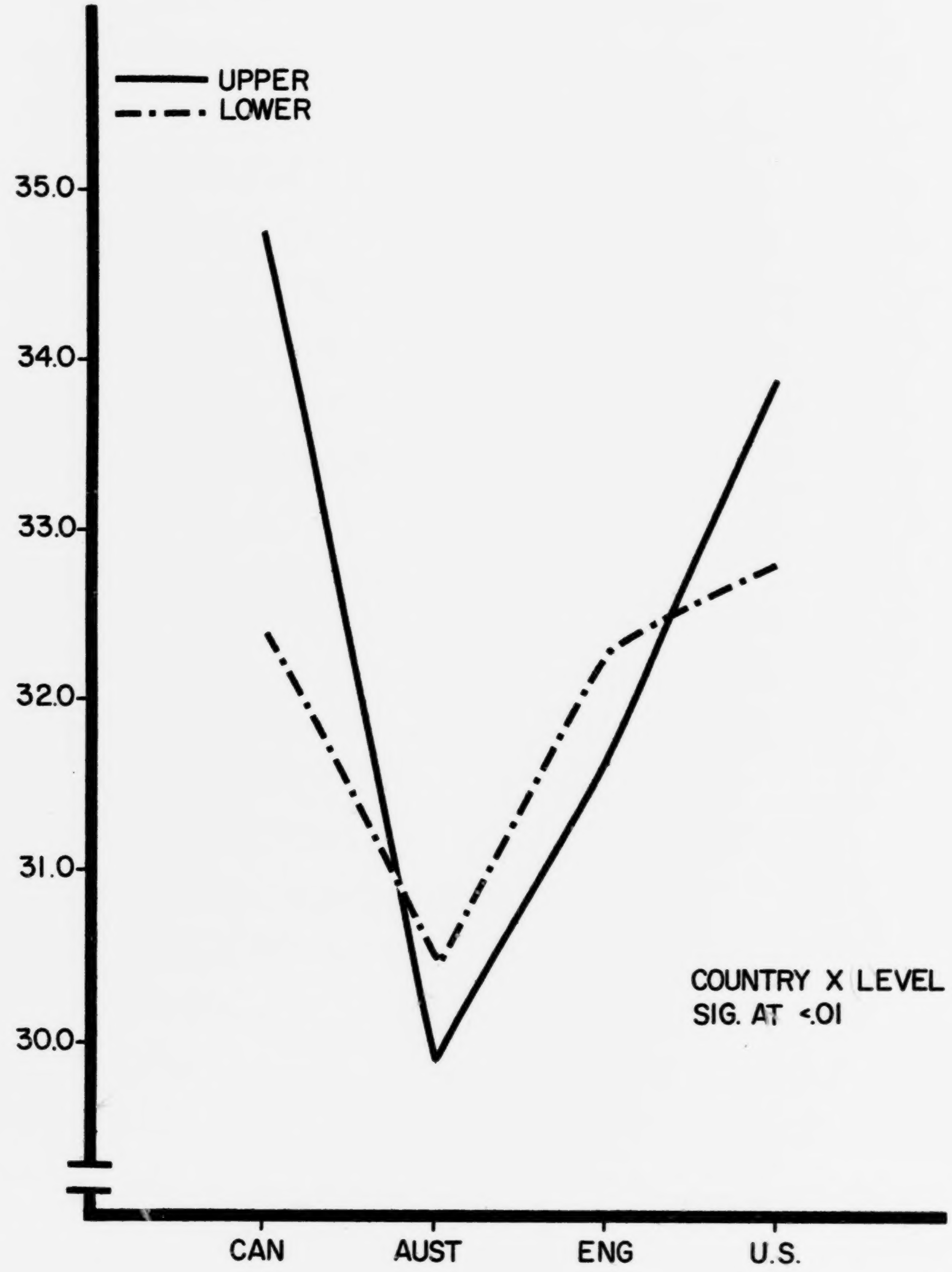

FIGURE 4. ILLUSTRATION OF SIGNIFICANT INTERACTION EFFECTS FOR THREE-WAY FACTORIAL ANALYSIS OF VARIANCE OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE

Attitude Toward Physical Activity as Chance. Descriptive and inferential statistics for the scores representing attitude towards physical activity perceived as chance are given in Tables Twenty-four and Twenty-five. As was the case with the analysis of scores expressing attitude toward physical activity as an ascetic experience, the means of the various groups appeared to cluster around the neutral position or perhaps somewhat below. Significant main effects for country, level and sex were observed. Differences among countries can be attributed to the approximate equivalence of the Canadian, English and United States means as compared to an Australian mean four points lower ($p < .005$). The significant difference between the two levels of educational attainment ($p < .005$) can be attributed to a more positive attitude toward chance among those samples representing the lower level for each country. A significant sex difference ($p < .005$) was observed with males expressing a slightly more positive attitude than females toward activity perceived as chance. The three-way interaction country by level by sex was significant ($p < .005$). Upon inspection of the cell means the various combinations yeilding this significant interaction do not appear to be profound. These are best seen by inspecting Figure Five.

II. Attitude Toward Physical Activity: A Comparison Among the Seven Dimensions

As indicated above the semantic differential scales are such that it is possible to compare the relative position of the seven dependent variables on the same scale. Thus a two-way analysis of variance (sex by attitude) with repeated observations on one dimen-

TABLE 24 - MEANS AND STANDARD DEVIATIONS OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE

Country and Level	Male		Female		Total	
	$\bar{X}$	s	$\bar{X}$	s	$\bar{X}$	s
Canada						
Lower	33.4	10.6	31.9	10.4	32.7	10.5
Upper	31.3	9.4	32.0	9.6	31.7	9.5
Total	32.4	10.0	32.0	10.0	32.2	10.0
Australia						
Lower	30.1	10.5	28.3	10.1	29.2	10.3
Upper	28.0	9.3	26.6	8.7	27.3	9.0
Total	29.1	9.9	27.4	9.5	28.3	9.7
England						
Lower	34.6	10.1	34.5	11.2	34.5	11.1
Upper	33.2	9.1	29.2	9.4	31.2	9.4
Total	33.9	10.0	31.8	10.7	32.8	10.4
United States						
Lower	32.4	10.9	32.7	11.4	32.6	11.2
Upper	32.7	10.2	31.0	10.3	31.8	10.3
Total	32.5	10.5	31.9	11.0	32.2	10.7
Total	32.0	10.1	30.8	10.3	31.4	10.4

TABLE 25 - THREE-WAY FACTORIAL ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG COUNTRIES, AND BETWEEN SEXES AND LEVELS: ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE

Source	d.f.	Mean Square	F	P
Country	3	17.5449	32.51	<.005
Level	1	12.1689	22.55	<.005
Sex	1	5.6523	10.48	<.005
C X L	3	1.3960	2.59	<.10
C X S	3	.6172	1.14	>.10
L X S	1	.6860	1.27	>.10
C X L X S	3	1.7800	3.30	<.05
Error	3178	.5396		
Total	3193			

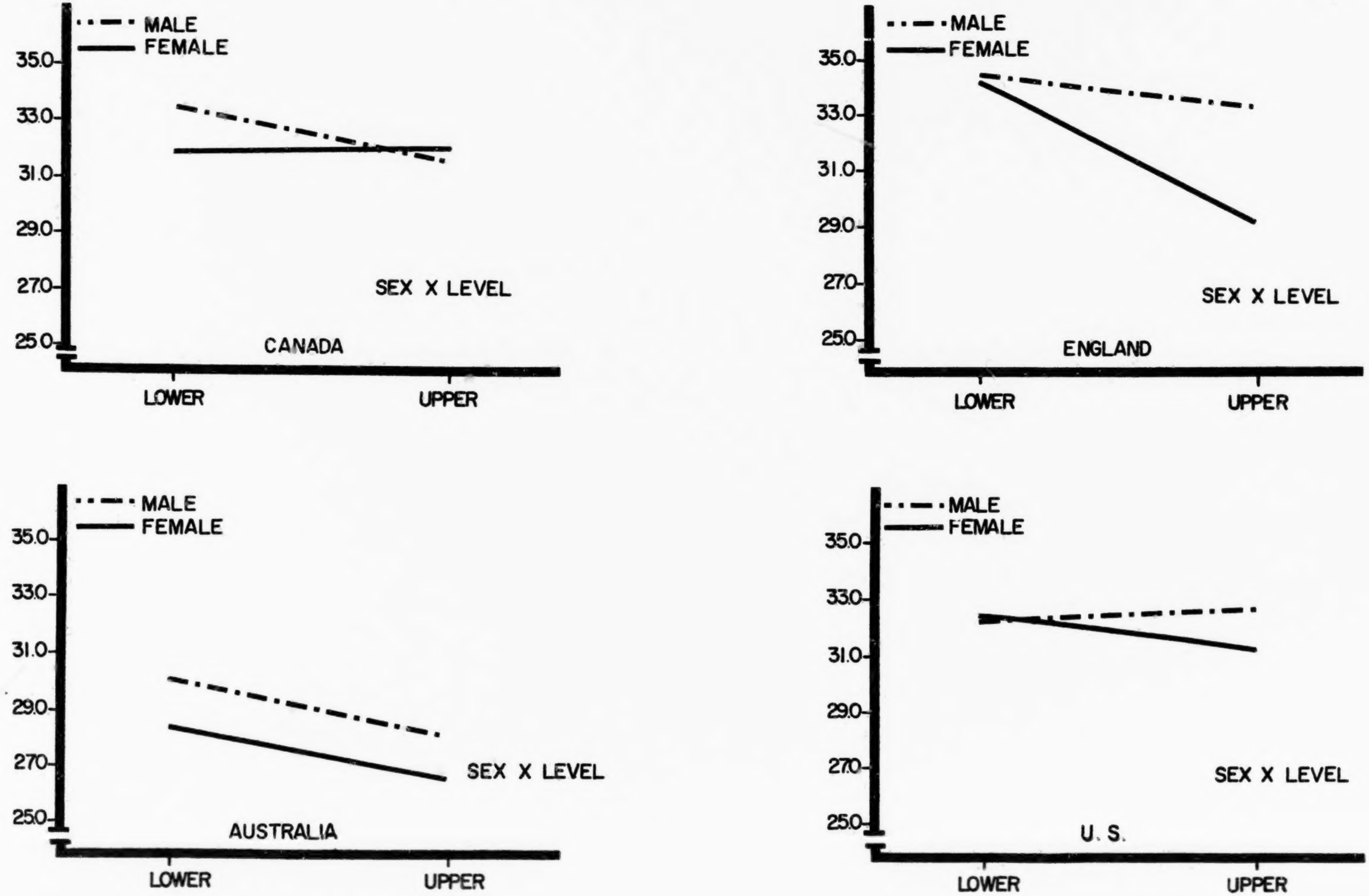

FIGURE 5. ILLUSTRATION OF SIGNIFICANT INTERACTION EFFECTS FOR THREE-WAY FACTORIAL ANALYSIS OF VARIANCE OF SCORES REPRESENTING ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE

sion (attitudes) was undertaken to determine which of the dimensions of physical activity elicited the most positive attitude.

Descriptive statistics for the present analysis are given in Table Twenty-six, while the results of the analysis of variance appears in Table Twenty-seven. The differences among the seven attitude dimensions are obviously highly significant. Upon inspecting the overall means for each subdomain of attitude it can be readily seen that samples from all countries expressed the most positive attitude toward physical activity as a social experience, as health and fitness, as an aesthetic experience, and as catharsis. The attitude expressed toward the remaining three dimensions, namely physical activity as the pursuit of vertigo, as an ascetic experience, and as chance, were much less positive than those expressed toward the former group. The least preferred form of physical activity seems to be that manifesting chance. The sex by attitude interaction is likely a function of girls expressing a more positive attitude than boys toward physical activity as an aesthetic experience, while the reverse of this is true for physical activity perceived as the pursuit of vertigo.

III. Summary

In exploring differences among countries, between levels of educational attainment, and between sexes, with regard to attitudes held toward physical activity, it would appear that one significant finding is the expression by the Australian sample of attitudes toward all dimensions of physical activity considerably below those expressed by students from the other three countries. Whether this is a result of physical activity representing a less important aspect of one's life

TABLE 26 - MEANS OF SCORES ON SEMANTIC DIFFERENTIAL SCALE FOR EACH OF THE SEVEN ATTITUDES AND CONTROLLING FOR SEX (N = 2994)

Attitude Toward Physical Activity	Male $\overline{X}$	Female $\overline{X}$	Total $\overline{X}$
As a Social Experience	44.9	46.4	45.6
As Health and Fitness	43.7	44.6	44.1
As the Pursuit of Vertigo	37.4	35.3	36.4
As an Aesthetic Experience	42.6	48.5	45.4
As Catharsis	44.3	45.5	44.9
As an Ascetic Experience	32.8	31.7	32.3
As Chance	32.0	30.8	31.4
All Attitudes	39.7	40.4	40.0

TABLE 27 - TWO-WAY ANALYSIS OF VARIANCE FOR DIFFERENCES AMONG ATTITUDES, AND BETWEEN SEXES: SCORES ON SEMANTIC DIFFERENTIAL SCALE*

Source	d.f.	Mean Square	F	P
Attitudes	6	124092	2068	<.001
Sex X Attitude	6	4982	83	<.001
Error	17952	59		
Total	17964			

*The unavailability of a suitable computer program to handle the data as arranged on punch cards and with unequal cell sizes, prevented analysis by a repeated measures design with attitude as an independent variable. Consequently the analysis performed was a trend analysis on the semantic differential scale for each attitude taken over two groups (sex).

style in Australia or a manifestation of a national response style to attitude inventories is difficult to determine with the present data. Further insights might be had, however, upon examining the findings reported in Chapter Five wherein a number of independent variables are examined for their association with various dimensions of attitude.

Sex differences were significant for each of the seven dimensions. Females expressed a more positive attitude toward physical activity when it is perceived as a social experience, as health and fitness, as an aesthetic experience, and as catharsis. Males, on the other hand, expressed more positive attitudes than females toward physical activity perceived as the pursuit of vertigo, as an ascetic experience, and as chance. The observed differences approximate what one might expect. However, many differences were not particularly great and were often confounded by certain interaction effects between country and sex.

Significant differences between the two levels of educational attainment were such that the older students expressed more favorable attitude toward physical activity as an aesthetic experience, and as catharsis. The younger groups expressed a more positive attitude toward physical activity as chance.

A number of conjectural and perhaps even theoretical explanations could be found for the findings reported in this chapter. But to present same for each variable would be beyond the limits of this study, since its purpose was largely descriptive and explanatory. However, as indicated above, the reader will be able to consider further the association between attitudes and various combination of involvement, dispositional, and situational variables in Chapter Five.

CHAPTER FOUR

INVOLVEMENT IN PHYSICAL ACTIVITY

In addition to determining attitudes toward physical activity, data were collected representing the degree of involvement in various forms of physical activity. It is the purpose of this chapter to make simple cross-national comparisons of the kind and degree of both primary and secondary involvement.

I. Primary Involvement

Primary involvement included those physical activities in which the participant actually engaged. There are several approaches possible for classifying such activities. For this study, subjects were asked to state the extent to which they were involved, when involvement was described in four different ways: as behavioral manifestations reflecting each of the seven dimensions of the conceptual model for characterizing physical activity, i.e., the same model used to provide the "psychological objects" for the attitude studies; as members of clubs sponsoring sports; as most preferred sport; and as most desired sport, given the opportunity.

Behavioral Manifestations Reflecting Conceptual Model Dimensions

For each of the seven dimensions of the conceptual model for characterizing physical activity, students were asked to estimate the frequency with which they involved themselves in activities that to them reflected the dimension in question. In addition to providing involvement data for cross-national comparisons, this procedure afforded an opportunity to look at the "action tendency" component of attitude toward physical activity (Krech, Crutchfield and Ballachey, 1962). The results are presented separately for each dimension of the model.

Participation in Socially Oriented Activities. The data provided in Table Twenty-eight suggests that participation in socially oriented physical activity is popular among all groups. Although there were no major overall national differences, students from the United States tended to be the most active. There were no important differences between males and females. The younger students were slightly more active than their older counterparts.

Participation for Health and Fitness. As seen in Table Twenty-nine, a large proportion of all groups between 70 and 80 percent--engaged in activities perceived to be contributing to health and fitness, once per week or oftener. The degree to which participation in physical education classes contributed to these statistics is not known, however. Probably of greater importance is that regardless of the form of activity, a large majority *felt* they were engaging in fitness activities. A comparison among countries showed that the United States students reported the highest degree of involvement. There were no major over-all sex differences.

Participation in Physical Activity as the Pursuit of Vertigo. In general, participation in vertiginous-like activities was not as popular as in fitness or socially oriented activities. A marked sex difference was found with fewer than twenty percent of the females participating weekly or oftener while the figures approached forty percent for the males. This finding is related to results reported in the previous chapter, namely, that *attitude* toward vertiginous activity was more positive among males than females.

TABLE 28. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. PARTICIPATION IN PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	52	34	14	242	60	30	10	227	52	32	16	252	45	38	17
Australia	53	70	19	11	45	53	22	25	64	56	33	11	42	64	29	7
England	209	67	18	15	214	65	23	12	273	52	28	20	186	43	37	20
United States	166	74	15	11	182	66	26	8	208	66	21	13	189	59	25	16
Total	649	64	23	13	683	63	26	11	772	56	28	16	669	50	33	17
	$X^2 = 27.59$		$P < .001$		$X^2 = 13.68$		$P < .05$		$X^2 = 15.81$		$P < .05$		$X^2 = 17.71$		$P < .01$	

TABLE 29. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. PARTICIPATION IN PHYSICAL ACTIVITY AS HEALTH AND FITNESS (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	80	14	6	242	67	23	10	227	60	24	16	252	35	44	21
Australia	53	77	15	8	45	62	25	13	64	84	10	6	42	74	14	12
England	206	78	18	4	213	71	15	14	273	74	16	10	186	70	20	10
United States	167	86	12	2	182	85	11	4	208	88	8	4	188	80	12	8
Total	647	80	15	5	682	73	17	10	772	74	16	10	668	60	26	14
	$X^2 = 7.23$		$P > .10$		$X^2 = 26.63$		$P < .001$		$X^2 = 47.38$		$P < .001$		$X^2 = 111.26$		$P < .001$	

In examining differences among countries, the United States students reported the greatest involvement in vertiginous activities; differences being significant for all groups except lower level males. With the exception of the lower level females, the English students reported the least amount of involvement. Statistics are given in Table Thirty.

Participation in Physical Activity as an Aesthetic Experience. As might be expected and as revealed in Table Thirty-one there was a sizeable sex difference among those reporting participation in physical activity as an aesthetic experience, with sixty-six percent of the lower females and fifty-four percent of the upper females indicating their participation at least once a month, as compared with forty-four percent of the lower males and thirty-one percent of the upper males. The United States sample again reported higher participation than those from other countries, with the Canadian group reporting the least frequent participation.

Participation in Physical Activity as Carthersis. Upon inspection of the data reported in Table Thirty-two no significant differences were observed. In all countries, half, or slightly fewer than half of the students reporting indicated they participated in physical activity of a cathartic nature at least once per week. It would appear, however, that males were involved to a slightly greater extent than females.

Participation in Physical Activity as an Ascetic Experience. As shown in Table Thirty-three, participation in activity of this kind was less popular than some of the other forms, particularly among females. There were no significant national differences in the lower level groups.

TABLE 30. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. PARTICIPATION IN PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	40	40	20	242	22	34	44	227	38	38	24	252	11	29	60
Australia	53	42	26	32	45	11	47	42	64	41	31	28	42	17	21	62
England	208	35	42	23	212	16	31	53	273	29	29	42	186	10	18	72
United States	166	45	32	23	181	32	39	29	206	50	31	19	189	23	25	52
Total	648	40	37	23	680	22	35	43	770	38	32	30	669	15	24	61
	$\chi^2 = 9.46$		$P > .10$		$\chi^2 = 32.79$		$P < .001$		$\chi^2 = 41.38$		$P < .001$		$\chi^2 = 25.57$		$P < .001$	

TABLE 31. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. PARTICIPATION IN PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	11	25	64	242	22	30	48	227	11	19	70	251	15	33	52
Australia	53	7	23	70	45	36	24	40	64	13	12	75	42	24	31	45
England	206	20	27	54	211	42	33	25	273	7	14	79	186	31	21	48
United States	166	32	25	43	182	43	32	25	208	23	24	53	188	35	31	34
Total	646	19	25	56	680	35	31	34	772	13	18	70	667	25	29	46
	$\chi^2 = 37.73$		$P < .001$		$\chi^2 = 43.38$		$P < .001$		$\chi^2 = 45.25$		$P < .001$		$\chi^2 = 33.14$		$P < .001$	

However, for the older sub-samples, students from the United States indicated greater frequency of participation than those from other countries. The English students reported the lowest frequency of participation.

Participation in Physical Activity as Chance. Significant differences among countries were observed (Table Thirty-four) for each of the sub-samples with regard to frequency of participation in chance activities. Activities of this kind are most popular among the United States students. Males indicated a higher rate of participation than females at both levels. However, participation in chance activities was the least frequent of the seven forms of physical activity.

In summary, the extent of primary involvement as reflecting the dimensions of the conceptual model, varied by kind of activity, country, sex, and, to some extent, level of educational attainment. The relative degree of involvement rather closely reflected the relative strength of attitude toward the same classes of physical activity, thus suggesting a correlation between the "affective" and "action tendency" components of attitude. The correspondence between the two will be examined more closely in Chapters Five and Six.

TABLE 32. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. PARTICIPATION IN PHYSICAL ACTIVITY AS CATHARSIS (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	220	51	31	18	242	43	32	25	227	53	31	16	252	40	39	21
Australia	53	55	24	21	45	42	33	25	64	50	30	20	42	57	33	10
England	208	41	32	27	209	40	30	30	273	47	33	20	186	44	34	22
United States	167	50	32	18	179	44	33	23	208	58	22	20	189	44	34	22
Total	648	48	31	21	675	42	32	26	772	52	30	18	669	43	36	21
	$X^2 = 8.61$		$P > .10$		$X^2 = 2.60$		$P > .10$		$X^2 = 9.44$		$P > .10$		$X^2 = 6.47$		$P > .10$	

TABLE 33. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. PARTICIPATION IN PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	30	30	40	242	15	19	66	227	25	21	54	252	8	9	83
Australia	51	30	35	35	41	19	32	49	62	34	29	37	42	12	33	55
England	207	28	36	36	210	12	24	64	272	18	16	66	186	5	5	90
United States	166	37	35	28	182	17	25	58	208	42	23	35	188	15	17	68
Total	645	31	34	35	675	15	23	62	769	27	21	52	668	9	12	79
	$X^2 = 7.92$		$P > .10$		$X^2 = 8.67$		$P > .10$		$X^2 = 55.20$		$P < .001$		$X^2 = 49.62$		$P < .001$	

Overall, students from the United States reported greater primary involvement, at least in terms of the conceptual model used in this study, than those from the other three countries. Males reported a higher rate of involvement than females in vertiginous, cathartic, ascetic, and chance activities, while females indicated a higher rate of participation in aesthetically oriented activities. No major sex differences were found for socially, or fitness oriented activities. Differences by level of educational attainment were not marked; however, when they appeared, their direction depended upon the form of the activity.

Memberships in Clubs Sponsoring Sport

The statistics describing the responses to the question, "To how many clubs or organizations sponsoring sports or physical activity to you belong?" are given in Table Thirty-five. As is readily apparent, there are no major national differences, with considerable involvement reported from all countries. Approximately sixty percent indicated membership in one or more organizations sponsoring sport. A slightly greater proportion of males are involved in this way.

Most Preferred Primary Involvement

Although the classification of sports and physical activities into general categories such as those of the conceptual model used in this study, is useful, particularly in cross-national work, the identity of a particular activity is lost. Therefore, students from each of the four countries were asked, in an open-ended question, "In what sport or physical activity do you like to participate the most?" the reader is referred to Table Thirty-six where the seven most popular activities

TABLE 34. CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. PARTICIPATION IN PHYSICAL ACTIVITY AS CHANCE (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	23	36	41	241	9	31	60	227	18	30	52	252	6	29	65
Australia	51	12	25	63	41	15	12	73	62	7	27	66	42	7	12	81
England	209	36	31	33	211	15	30	55	273	18	34	48	186	2	13	85
United States	166	30	26	44	181	33	21	46	208	31	25	44	189	16	22	62
Total	647	28	31	41	674	18	27	55	770	20	30	50	669	8	22	70
	$\chi^2 = 25.58$		$P < .001$		$\chi^2 = 47.95$		$P < .001$		$\chi^2 = 26.20$		$P < .001$		$\chi^2 = 52.17$		$P < .001$	

TABLE 35. CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. MEMBERSHIP IN SPORTS CLUBS (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	2 or more	one	none	n	2 or more	one	none	n	2 or more	one	none	n	2 or more	one	none
Canada	221	24	33	43	242	20	38	42	226	23	36	41	252	20	33	47
Australia	53	38	36	26	43	28	40	32	64	42	36	22	43	14	53	33
England	208	21	39	40	213	20	35	45	273	25	35	40	185	17	39	44
United States	166	21	42	37	181	25	36	39	208	22	39	39	189	19	35	46
Total	648	23	38	39	679	22	37	41	771	25	37	38	669	18	37	45
	$\chi^2 = 11.26$		$P < .10$		$\chi^2 = 4.39$		$P > .10$		$\chi^2 = 14.68$		$P < .05$		$\chi^2 = 7.24$		$P > .10$	

are presented for each country and level. In general it can be seen that for males, regardless of country, team sports are the most popular. For females, social dance or swimming ranked either first or second for five of the eight female subgroups, or within the first four choices for all subgroups. Thus there is much similarity in interests among the four countries studied.

Most Desired Primary Involvement, Given Opportunity

Participation in various physical activities is frequently restricted by situational factors. In Table Thirty-seven, statistics are given showing responses to the question, "If you had the chance name the sport in which you would like to participate most of all (even though you may never have played it before)." For males the most "desired" activity corresponded with the most "preferred" (Table Thirty-six) activity for seven of the eight subgroups. However, there were some noticeable shifts in the ranking of other sports. For example, given the opportunity, car or motorcycle racing would be very popular, particularly among the older boys. For the upper level English sample, this sport ranked first. For females, swimming as a "desired" activity given the opportunity, remains popular, but less so in contrast to when it is designated as a "preferred" activity.

Social dance, which ranked first or second as a "preferred" activity among seven of the eight female sub-samples was ranked within the first seven "desired" activities by only one sub-sample. It would appear that girls in all four countries would like to have engaged in more skiing, tennis, and skating, given the opportunity.

In general, it appears the desired primary involvement corresponds to actual primary involvement with regard to the most popular

TABLE 36. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. MOST PREFERRED SPORT FOR PRIMARY INVOLVEMENT (IN PERCENT OF THOSE RESPONDING)

Sex and Level	Order of Preference	Canada		Australia*		England		United States	
Lower Male	1	Can. football	24	Aust. rules rugby	34	soccer	39	Amer. football	41
	2	ice hockey	16	swimming	15	swimming	19	basketball	15
	3	swimming	13	soccer	11	cricket	9	baseball	10
	4	basketball	7	rugby	8	track & field	5	swimming	7
	5	baseball	6	tennis	4	rugby	4	social dance	5
	6	social dance	4			social dance	2	track & field	4
	7	golf	3			tennis	2	tennis	2
Upper Male	1	Can. football	29	Aust. rules rugby	28	soccer	23	Amer. football	39
	2	ice hockey	16	swimming	13	rugby	13	basketball	19
	3	swimming	11	field hockey	11	swimming	10	baseball	12
	4	social dance	5	ice hockey	8	cricket	6	swimming	5
	5	skiing	5	cricket	6	tennis	6	social dance	3
	6	baseball	5	surfing	5	social dance	5	track & field	3
	7	golf	4	track & field	5	golf	4	wrestling	3

(continued)

TABLE 36. (continued)

Sex and Level	Order of Preference	Canada		Australia*		England		United States	
Lower Female	1	social dance	25	swimming	30	social dance	28	social dance	26
	2	swimming	20	social dance	18	swimming	18	swimming	19
	3	equestrian sports	9	basketball	16	tennis	14	basketball	9
	4	basketball	7	tennis	11	netball	10	tennis	8
	5	skiing	7	field hockey	7	ice hockey	4	equestrian sports	5
	6	tennis	6	track & field	5	dance (non-soc.)	4	volleyball	4
	7	volleyball	5	surfing	5	equestrian sports	3	baseball	4
Upper Female	1	social dance	27	swimming	26	social dance	20	social dance	26
	2	swimming	19	basketball	19	tennis	20	basketball	16
	3	skiing	8	social dance	16	badminton	11	swimming	14
	4	equestrian sports	6	field hockey	12	swimming	10	bowling	8
	5	tennis	6	equestrian sports	5	netball	5	volleyball	7
	6	baseball	5	tennis	5	field hockey	5	skating	7
	7	basketball	4			figure skating	4	baseball	6

*Due to the relatively small size of the Australian sample only those sports chosen by at least 4% of the respondents were considered.

TABLE 37. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. MOST DESIRED SPORT FOR PRIMARY INVOLVEMENT, GIVEN THE OPPORTUNITY (IN PERCENT OF THOSE RESPONDING)

Sex and Level	Order of Preference	Canada		Australia		England		United States	
Lower Male	1	Can. football	18	Aust. rules rugby	24	soccer	18	Amer. football	18
	2	car & motor cycle racing	13	skiing	12	car & motor cycle racing	13	basketball	11
	3	ice hockey	13	skating	8	cricket	7	skiing	8
	4	basketball	5	surfing	6	ice hockey	6	car & motor cycle racing	6
	5	baseball	5	judo, karate	4	skiing	4	ice hockey	6
	6	tennis	5	swimming	4	swimming	4	baseball	6
	7	skiing	5	tennis	4	track & field	4	track & field	6
Upper Male	1	Can. football	19	Aust. rules rugby	18	car & motor cycle racing	18	Amer. football	40
	2	ice hockey	17	ice hockey	16	soccer	15	basketball	13
	3	car & motor cycle racing	16	car & motor cycle racing	8	skiing	6	ice hockey	7
	4	skiing	9	water skiing	5	rugby	6	baseball	7
	5	sky diving	4	swimming	5	rock & mtn. climbing	5	car & motor cycle racing	6
	6	lacrosse	4	skin & scuba diving	5	swimming	5	skiing	3
	7	golf	4	baseball	5	cricket	4	sky diving	3

(continued)

TABLE 37. (continued)

Sex and Level	Order of Preference	Canada		Australia		England		United States	
Lower Female	1	tennis	16	swimming	14	swimming	16	skiing	19
	2	skiing	13	diving	7	tennis	12	basketball	15
	3	swimming	11	equestrian sports	7	figure skating	8	Amer. football	13
	4	equestrian sports	7	field hockey	7	netball	5	ice hockey	8
	5	Can. football	5	Aust. rules rugby	5	soccer	5	swimming	6
	6	baseball	4	social dance	5	equestrian sports	5	volleyball	5
	7	figure skating	4	gymnastics	5	dance (non-soc.)	4	skating	5
Upper Female	1	skiing	17	skating	14	skiing	16	skiing	20
	2	swimming	12	skiing	9	tennis	10	swimming	12
	3	tennis	12	tennis	9	skating	8	basketball	10
	4	car & motor cycle racing	6	basketball	7	swimming	8	Amer. football	8
	5	sky diving	5	gymnastics	7	equestrian sports	4	tennis	7
	6	basketball	4	baseball	5	car & motor cycle racing	4	baseball	5
	7	equestrian sports	4	ice hockey	5	figure skating	4	skating	4

activity only. When second and third ranked activities are considered, marked difference can be seen. These findings suggest either a situational influence upon involvement, or a "glamour" effect of certain activities, or perhaps some combination of both.

II. Secondary Involvement

Two forms of secondary involvement were considered in this study, namely, actual attendance at sporting events, and consumption of sport via the mass media. The several manifestations of each are discussed in this section.

Involvement Through Attendance

The scope of the study did not permit the collection of data on attendance rates for each of the wide variety of physical activities. Rather, subjects were asked to indicate their frequency of attendance in general, but separately for summer and winter. In addition, their favorite spectator sport was ascertained.

Attendance at Sporting Events in the Summer. In general, approximately three-quarters of the secondary school students in Canada, England, and the United States attend sporting events in the summer at least once per month.[1] Although national differences were not great in magnitude, they were significant for three of the sub-samples. The English students seemed to be involved to a somewhat lesser degree than the Canadian and United States students, and males more frequently attend than females. Statistics are presented in Table Thirty-eight.

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[1] Data from the Australian sample were not available for this variable.

Attendance at Sporting Events in the Winter. Attendance at sporting events was somewhat lower in the winter than in summer. In general, however, approximately two-thirds of the sample attended during the winter season at least once per month. There were distinct national differences, as can be seen by examing Table Thirty-nine. In winter as in summer, the English students were least involved, while those from the United States were involved the most, with the Canadians in between.

Most Preferred Spectator Sport. In Table Forty, data are presented indicating the relative preferences for specific spectator sports through attendance. For males, team sports were by far the most popular. National differences occurred as might be expected. The Canadian males prefer Canadian football and ice hockey; the Australians prefer Australian rules rugby; the English, soccer; and the Americans, football and basketball. The female students, for the most part, reflected interests comparable to their male counterparts. There are some exceptions however, the details of which may be had by examining Table Forty.

Involvement Through Consumption of the Mass Media

The two forms of mass media examined in this study were television and the press. The findings, concerning several aspects of each, are described below.

Sport Via Television. To ascertain the impact of television as a medium for secondary involvement in sport, several different questions were asked of the subjects. As reported in Chapter Two, the

TABLE 38 - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. ATTENDANCE AT SPORTS EVENTS DURING SUMMER (IN PERCENT OF THOSE RESPONDING)

Country	Lower Male				Lower Female				Upper Male				Upper Female			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	35	47	18	241	34	46	20	226	40	47	13	251	33	45	22
England	208	38	36	26	212	31	35	34	273	28	44	28	184	29	30	41
United States	164	34	49	17	178	38	41	21	203	40	37	23	186	31	43	26
Total	593	36	44	20	631	34	41	25	702	35	43	22	621	31	40	29
	$\chi^2 = 10.19$		$P > .10$		$\chi^2 = 14.77$		$P < .05$		$\chi^2 = 22.27$		$P < .01$		$\chi^2 = 20.88$		$P < .01$	

TABLE 39 - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. ATTENDANCE AT SPORTS EVENTS DURING WINTER (IN PERCENT OF THOSE RESPONDING)

Country	Lower Male				Lower Female				Upper Male				Upper Female			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	215	23	43	34	239	23	41	36	220	31	41	28	239	20	46	34
England	200	32	24	44	206	16	28	56	264	32	32	36	174	20	22	58
United States	155	36	39	25	173	43	36	21	196	50	33	17	181	48	32	20
Total	570	30	35	35	618	27	35	38	680	37	35	28	594	29	34	37
	$\chi^2 = 26.86$		$P < .001$		$\chi^2 = 63.08$		$P < .001$		$\chi^2 = 31.54$		$P < .001$		$\chi^2 = 84.49$		$P < .001$	

*Data on sports attendance is unavailable from the Australian sample.

TABLE 40. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. MOST PREFERRED SPORT FOR SECONDARY INVOLVEMENT: SPECTATOR (IN PERCENT OF THOSE RESPONDING)

Sex and Level	Order of Preference	Canada		Australia		England		United States	
Lower Male	1	Can. football	36	Aust. rules rugby	56	soccer	54	Amer. football	57
	2	ice hockey	28	soccer	10	cricket	12	basketball	17
	3	car & motor cycle racing	12	professional wrestling	6	car & motor cycle racing	8	baseball	14
	4	basketball	6	rugby	6	swimming	5	car & motor cycle racing	4
	5	diving	2	car & motor cycle racing	6	professional wrestling	4	boxing	2
	6	soccer	2			rugby	4	ice hockey	2
	7	swimming	2			baseball	2	track & field	2
Upper Male	1	Can. football	42	Aust. rules rugby	58	soccer	42	Amer. football	59
	2	ice hockey	35	rugby	8	car & motor cycle racing	13	basketball	21
	3	car & motor cycle racing	15	car & motor cycle racing	5	cricket	13	car & motor cycle racing	7
	4	basketball	4	ice hockey	5	rugby	12	baseball	6
	5	figure skating	1	field hockey	5	professional wrestling	2	ice hockey	2
	6	baseball	1	track & field	5	track & field	2	track & field	2
	7	track & field	1	surfing	3	gymnastics	2	horse racing	1

(continued)

TABLE 40. (continued)

Sex and Level	Order of Preference	Canada		Australia		England		United States	
Lower Female	1	Can. football	35	Aust. rules rugby	52	soccer	25	Amer. football	41
	2	ice hockey	15	swimming	9	swimming	20	basketball	33
	3	basketball	13	field hockey	7	professional wrestling	6	baseball	13
	4	baseball	9	social dance	5	tennis	6	skating	2
	5	car & motor cycle racing	4			netball	6	skiing	2
	6	horse racing	3			ice hockey	5	car & motor cycle racing	1
	7	skiing	3			rugby	5	golf	1
Upper Female	1	Can. football	35	Aust. rules rugby	58	tennis	23	basketball	38
	2	ice hockey	19	gymnastics	12	soccer	14	Amer. football	36
	3	basketball	15	basketball	9	swimming	12	baseball	15
	4	baseball	8	tennis	5	rugby	12	professional wrestling	3
	5	car & motor cycle racing	7	field hockey	5	cricket	7	track & field	2
	6	horse racing	3	soccer	5	car & motor cycle racing	6	car & motor cycle racing	2
	7	dance (non-soc.)	2			field hockey	4	swimming	1

vast majority of subjects reported television sets in the home. Moreover, television viewing in general, as shown on Tables Forty-one and Forty-two, represents a popular pastime among adolescents, a finding consistent with other studies. With some exceptions, particularly among upper level students, the English and the Americans reported the highest rates of viewing. More specifically however, the hours of viewing sport on television per week are shown in Tables Forty-three and Forty-four for summer and winter respectively. It is readily apparent that sport represents a sizeable portion of all television viewing of adolescents. With some exceptions, the national differences here reflect those of television viewing in general. The details are best had by examining the tables.

In an effort to ascertain the significance of secondary involvement in activities manifesting, for the most part, the same dimensions of physical activity as those of the conceptual model used for the attitude phase of the project, subjects were asked to indicate the frequency with which they viewed televised activities reflecting aspects of five of the seven dimensions. For example, Table Forty-five indicates the relative popularity of viewing a _socially oriented activity_, namely, programs devoted to teenage dancing. Such were relatively popular with approximately two-thirds of the lower level, and half of the upper level students reporting exposure at least once per week. A somewhat greater frequency of viewing teen dance programs was reported by females than by males, particularly at the lower level. A comparison by nation revealed that for three of the four sub-samples, such programs were most popular among the English and Australians.

TABLE 41 - CROSS-NATIONAL COMPARISON INVOLVEMENT IN GENERAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR SEX AND LEVEL OF EDUCATIONAL ATTAINMENT. HOURS OF VIEWING TELEVISION DURING SUMMER (IN PERCENT OF THOSE RESPONDING)

Hours of Viewing	Canada	Australia	England	United States	Total
Lower Male					
0- 9	38	43	33	27	34
10-14	33	27	25	18	26
15-19	6	9	11	5	7
20-24	12	15	17	21	16
25-29	5	6	5	12	7
30 or more	6	0	9	17	10
n	220	53	210	167	650
	χ^2 =50.09		P <.001		
Lower Female					
0- 9	55	48	29	25	38
10-14	25	30	38	23	29
15-19	3	4	5	5	4
20-24	7	11	13	20	13
25-29	5	7	8	12	8
30 or more	5	0	7	15	8
n	243	44	213	182	682
	χ^2 =79.84		P <.001		
Upper Male					
0- 9	58	53	45	32	46
10-14	26	22	32	27	28
15-19	2	8	8	7	6
20-24	7	14	11	16	11
25-29	3	2	2	7	4
30 or more	4	1	2	11	5
n	227	64	272	188	751
	χ^2 =63.85		P <.001		
Upper Female					
0- 9	66	56	63	26	56
10-14	22	24	27	19	23
15-19	3	2	3	5	3
20-24	5	14	5	19	9
25-29	3	4	1	14	5
30 or more	1	0	1	17	4
n	251	50	186	133	620
	χ^2 =145.36		P <.001		

TABLE 42 - CROSS-NATIONAL COMPARISON INVOLVEMENT IN GENERAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR SEX AND LEVEL OF EDUCATIONAL ATTAINMENT. HOURS OF VIEWING TELEVISION DURING WINTER (IN PERCENT OF THOSE RESPONDING)

Hours of Viewing	Canada	Australia	England	United States	Total
Lower Male					
0- 9	17	36	16	14	17
10-14	26	28	13	25	22
15-19	9	8	9	8	8
20-24	20	13	22	22	21
25-29	13	11	18	8	13
30 or more	15	4	22	23	19
n	220	53	210	167	650
	X^2 = 43.54		P <.001		
Lower Female					
0- 9	30	43	12	28	25
10-14	34	23	18	22	25
15-19	10	18	9	6	9
20-24	16	5	19	16	16
25-29	6	7	23	8	12
30 or more	4	4	19	20	13
n	243	44	213	182	682
	X^2 = 108.88		P <.001		
Upper Male					
0- 9	27	54	19	28	27
10-14	34	19	29	20	28
15-19	8	14	13	7	10
20-24	18	0	22	20	18
25-29	5	8	10	9	8
30 or more	8	5	7	16	9
n	227	64	272	188	751
	X^2 = 71.67		P <.001		
Upper Female					
0- 9	45	52	39	35	42
10-14	28	18	34	26	28
15-19	5	4	8	5	6
20-24	15	14	11	16	14
25-29	5	12	5	6	6
30 or more	2	0	3	12	4
n	251	50	186	133	620
	X^2 = 41.30		P <.001		

TABLE 43 - CROSS-NATIONAL COMPARISON INVOLVEMENT IN GENERAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR SEX AND LEVEL OF EDUCATIONAL ATTAINMENT. HOURS OF TELEVISED PHYSICAL ACTIVITY DURING SUMMER (IN PERCENT OF THOSE RESPONDING)

Hours of Viewing	Canada	Australia	England	United States	Total
Lower Male					
0- 1	27	36	19	15	22
2- 3	34	36	29	28	31
4- 5	19	17	23	16	20
6- 7	11	4	12	16	12
8- 9	1	0	3	4	2
10 or more	8	7	14	21	13
n	220	53	210	167	650
	$\chi^2 = 39.62$		$P < .001$		
Lower Female					
0- 1	50	46	37	34	41
2- 3	33	36	29	31	31
4- 5	7	5	14	10	10
6- 7	5	7	13	13	10
8- 9	0	4	2	2	2
10 or more	5	2	5	10	6
n	243	44	213	182	682
	$\chi^2 = 39.05$		$P < .001$		
Upper Male					
0- 1	29	53	32	20	30
2- 3	35	30	37	29	34
4- 5	20	9	17	19	18
6- 7	7	5	9	11	8
8- 9	3	2	3	4	3
10 or more	6	1	2	17	7
n	227	64	272	188	751
	$\chi^2 = 66.54$		$P < .001$		
Upper Female					
0- 1	53	44	46	38	47
2- 3	32	42	35	29	32
4- 5	6	6	10	12	9
6- 7	4	8	6	12	7
8- 9	1	0	0	3	1
10 or more	4	0	3	6	4
n	251	50	186	133	620
	$\chi^2 = 31.25$		$P < .01$		

TABLE 44 - CROSS-NATIONAL COMPARISON INVOLVEMENT IN GENERAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR SEX AND LEVEL OF EDUCATIONAL ATTAINMENT. HOURS OF TELEVISED PHYSICAL ACTIVITY DURING WINTER (IN PERCENT OF THOSE RESPONDING)

Hours of Viewing	Canada	Australia	England	United States	Total
Lower Male					
0- 1	11	28	12	11	13
2- 3	26	30	22	19	23
4- 5	30	25	24	16	24
6- 7	15	7	17	16	15
8- 9	4	4	6	10	7
10 or more	14	6	19	28	18
n	220	53	210	167	650
	χ^2 = 45.92		P <.001		
Lower Female					
0- 1	37	36	25	25	30
2- 3	35	36	30	30	33
4- 5	12	14	16	15	14
6- 7	10	7	17	15	13
8- 9	1	0	2	1	1
10 or more	5	7	10	14	9
n	243	44	213	182	682
	χ^2 = 28.64		P <.02		
Upper Male					
0- 1	16	41	24	9	19
2- 3	32	34	36	19	30
4- 5	19	14	20	22	20
6- 7	12	5	11	13	11
8- 9	9	1	2	12	7
10 or more	12	5	7	25	13
n	227	64	272	188	751
	χ^2 = 99.2		P <.001		
Upper Female					
0- 1	36	34	50	28	38
2- 3	37	36	28	31	33
4- 5	10	20	14	16	13
6- 7	10	8	6	16	10
8- 9	1	0	1	1	1
10 or more	6	2	1	8	5
n	251	50	186	133	620
	χ^2 = 34.22		P <.01		

TABLE 45 - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. TELEVISED PHYSICAL ACTIVITY: TEEN DANCE (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	62	23	15	242	66	23	11	227	43	35	22	252	46	31	23
Australia	54	72	13	15	45	76	15	9	64	70	20	10	44	84	5	11
England	209	64	20	16	210	86	9	5	273	58	23	19	184	60	27	13
United States	167	52	29	19	180	68	16	16	205	33	36	31	188	49	26	25
Total	651	61	23	16	677	73	17	10	769	48	30	22	668	53	27	20
	$X^2 = 11.10$		$P < .10$		$X^2 = 30.46$		$P < .001$		$X^2 = 46.73$		$P < .001$		$X^2 = 32.27$		$P < .001$	

National differences among the lower level male groups were not significant.

Television programs featuring aspects of physical fitness were not popular among the adolescents of Canada, Australia, England, or the United States. Over half of all those sampled indicated they viewed such programs less than once per month. There were no large national differences with the possible exception of the greater preference expressed for this type of program by lower level English students in contrast with lower level students from other countries. The findings are presented in Table Forty-six.

When asked to indicate the frequency of their viewing so-called "thrilling" sports on television, and thereby reflecting an interest in the pursuit of vertigo, there appeared to be no major national differences. (See Table Forty-seven.) There were large sex differences however, with two thirds of the males watching at least once per week, while only one-third of the females reported this degree of involvement.

Table Forty-eight shows the popularity of televised sport depicting aesthetic physical activity. Although this was somewhat more popular among females than males fewer than one-quarter of the entire sample viewed such programs once a week or oftener. Programs of this type were least popular among the Australians. National differences were not significant among lower level male groups, however.

When the question was asked, "How often do you watch college or professional sports?" as an indirect indication of their interest in ascetic physical activity, the results were in sharp contrast with those reflecting primary participation in sports of this type, as

TABLE 46. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. TELEVISED PHYSICAL ACTIVITY: HEALTH AND FITNESS (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Female				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	220	10	27	63	242	8	40	52	227	5	20	75	252	9	32	59
Australia	54	22	20	58	45	7	27	66	64	6	24	70	44	0	30	70
England	209	24	38	38	209	18	48	34	273	11	23	66	184	6	27	67
United States	167	13	25	62	181	10	24	66	205	9	27	64	188	6	25	69
Total	650	16	29	55	677	12	37	51	769	8	23	69	668	7	28	65
	$\chi^2 = 40.65$		P < .001		$\chi^2 = 50.73$		P< .001		$\chi^2 = 11.37$		P < .10		$\chi^2 = 8.91$		P> .10	

TABLE 47. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. TELEVISED PHYSICAL ACTIVITY: PURSUIT OF VERTIGO (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	76	19	5	242	41	46	13	227	66	30	4	252	39	42	19
Australia	54	61	30	9	45	27	55	18	64	58	31	11	44	32	39	29
England	208	65	29	6	211	37	49	14	272	54	38	8	183	26	52	22
United States	166	72	22	6	178	34	49	17	203	70	24	6	188	32	53	15
Total	649	70	24	6	676	37	48	15	766	62	31	7	667	33	48	19
	$\chi^2 = 8.74$		P > .10		$\chi^2 = 5.34$		P > .30		$\chi^2 = 17.31$		P< .01		$\chi^2 = 14.87$		P< .02	

shown in Table Forty-nine. Over half of the males watched college or professional sport on television once a week or oftener. The rate for females was lower, however, slightly below one-third. Among males the students from the United States indicated the greatest degree of preference for programs of this type while those from Australia, the least. The same was true among females but to a lesser extent.

In an effort to identify the favorite televised sport, the question was asked of subjects, "What is your favorite sport on television?" Responses are given in Table Fifty. The most popular television sport among Canadians was ice hockey and Canadian football. Australian rules rugby was first choice among the Australian sample, while American football was clearly the preferred sport of the United States students. For the English there was a sex difference; the males chose soccer and car or motor cycle racing, while the most popular sport among lower level females was swimming, and among upper level females, tennis. The ranking of the sports is given in the accompanying table.

Sport Via the Press. The consumption of sport via newspapers, books and magazines was considered as another form of secondary involvement. Table Fifty-one shows that the sports page appeals most to students from the United States and Australia and least to those from England and Canada. Nearly three-quarters of the males and approximately half of the females indicated that they read the sports page at least once per week.

TABLE 48. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. TELEVISED PHYSICAL ACTIVITY: AESTHETIC (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	18	49	33	242	27	48	25	226	18	45	37	252	28	50	22
Australia	54	11	48	41	45	18	44	38	64	11	37	52	44	14	50	36
England	208	24	50	26	210	30	54	16	273	9	46	45	184	16	59	25
United States	167	23	43	34	181	25	41	34	204	17	36	47	188	17	54	29
Total	650	20	48	32	678	27	48	25	767	14	43	43	668	21	54	25
	χ^2 = 9.76		P < .10		χ^2 = 21.71		P < .001		χ^2 = 17.91		P< .01		χ^2 = 15.75		P< .01	

TABLE 49. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. TELEVISED PHYSICAL ACTIVITY: COLLEGE AND PROFESSIONAL SPORT (IN PERCENT OF THOSE RESPONDING)

Country	Lower Males				Lower Females				Upper Males				Upper Females			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	47	34	19	242	23	40	37	227	55	30	15	252	27	38	35
Australia	54	26	41	33	45	22	33	45	64	44	39	17	44	27	43	30
England	209	48	25	27	211	28	35	37	273	53	29	18	184	23	41	36
United States	166	77	15	8	176	39	34	27	205	84	10	6	188	51	29	20
Total	650	53	27	20	674	29	36	35	769	61	25	14	668	32	37	31
	χ^2 = 67.37		P< .001		χ^2 = 16.61		P< .02		χ^2 = 63.22		P< .001		χ^2 = 43.03		P< .001	

TABLE 50. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. MOST PREFERRED SPORT FOR SECONDARY INVOLVEMENT: TELEVISION (IN PERCENT OF THOSE RESPONDING)

Sex and Level	Order of Preference	Canada		Australia		England		United States	
Lower Male	1	ice hockey	35	Aust. rules rugby	35	soccer	33	Amer. football	73
	2	Can. football	25	soccer	20	car & motor cycle racing	18	baseball	8
	3	car & motor cycle racing	19	skating	12	professional wrestling	16	car & motor cycle racing	5
	4	baseball	6	surfing	10	cricket	9	basketball	5
	5	social dance	2	cricket	6	swimming	8	boxing	4
	6	skiing	2	rugby	4	horse racing	4	social dance	1
	7	professional wrestling	2			track & field	4	skin & scuba diving	1
Upper Male	1	ice hockey	49	Aust. rules rugby	48	soccer	32	Amer. football	76
	2	Can. football	30	car & motor cycle racing	13	car & motor cycle racing	16	basketball	9
	3	car & motor cycle racing	11	skating	7	rugby	11	baseball	6
	4	skiing	2	cricket	7	professional wrestling	10	car & motor cycle racing	5
	5	baseball	2	rugby	5	cricket	8	track & field	1
	6	professional wrestling	1	soccer	3	swimming	5	bowling	1
	7	camping, etc.	1	professional wrestling	3	track & field	5	tennis	1

(continued)

TABLE 50. (continued)

Sex and Level	Order of Preference	Canada		Australia		England		United States	
Lower Female	1	ice hockey	22	skating	19	swimming	26	Amer. football	41
	2	Can. football	14	Aust. rules rugby	19	professional wrestling	16	basketball	19
	3	swimming	14	swimming	14	soccer	10	baseball	14
	4	skiing	10	professional wrestling	5	tennis	9	swimming	6
	5	baseball	8	amateur wrestling	5	gymnastics	5	skiing	4
	6	diving	5	tennis	5	dance (non-soc.)	5	skating	4
	7	figure skating	4	surfing	5	figure skating	5	car & motor cycle racing	2
Upper Female	1	Can. football	27	Aust. rules rugby	36	tennis	25	Amer. football	44
	2	ice hockey	24	skating	14	swimming	11	basketball	19
	3	baseball	8	gymnastics	10	figure skating	10	baseball	17
	4	car & motor cycle racing	6	swimming	10	skating	9	swimming	4
	5	swimming	5	equestrian sports	5	professional wrestling	9		
	6	skiing	5	track & field	5	soccer	8		
	7	figure skating	5			gymnastics	7		

TABLE 51. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. SPORTS VIA NEWSPAPER (IN PERCENT OF THOSE RESPONDING)

Country	Lower Male				Lower Female				Upper Male				Upper Female			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	64	20	16	242	38	32	30	227	72	16	12	252	44	25	31
Australia	53	79	10	11	44	48	32	20	64	81	13	6	43	77	7	16
England	208	66	20	14	211	36	30	34	273	73	13	14	186	42	21	37
United States	167	83	11	6	181	59	22	19	204	86	9	5	188	70	18	12
Total	649	71	17	12	678	43	29	28	768	77	13	10	669	53	21	27
	$X^2 = 21.15$		$P < .01$		$X^2 = 26.61$		$P < .001$		$X^2 = 17.83$		$P < .01$		$X^2 = 55.32$		$P < .001$	

TABLE 52. - CROSS-NATIONAL COMPARISON OF INVOLVEMENT IN PHYSICAL ACTIVITY: COUNTRY CROSS-TABULATED WITH DEGREE OF INVOLVEMENT, CONTROLLING FOR LEVEL OF EDUCATIONAL ATTAINMENT AND SEX. SPORTS VIA BOOKS OR MAGAZINES (IN PERCENT OF THOSE RESPONDING)

Country	Lower Male				Lower Female				Upper Male				Upper Female			
	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less	n	1/wk	1/mo	Less
Canada	221	38	43	19	242	22	40	38	227	48	34	18	252	18	49	33
Australia	53	28	49	23	44	23	48	29	64	34	44	22	43	28	44	28
England	208	30	45	25	210	20	43	37	273	27	36	37	186	15	32	53
United States	167	45	41	14	181	28	37	35	205	54	33	13	188	29	42	29
Total	649	37	43	20	677	23	41	36	769	41	35	24	669	21	42	37
	$X^2 = 14.57$		$P < .02$		$X^2 = 4.42$		$P > .10$		$X^2 = 58.63$		$P < .001$		$X^2 = 36.02$		$P < .001$	

When subjects were asked to indicate the frequency with which they read about sport in books and magazines, the results as shown in Table Fifty-two, indicate that this form of sport involvement was less popular than the newspaper. Interest was greatest among the United States students and least among the English students. Again, as with the sports page, males indicated a greater involvement than females.

III. Summary

The purpose of this chapter was to describe the degree of involvement in sport and physical activity among secondary school students in Canada, Australia, England and the United States. It is apparent that both primary and secondary involvement is considerable among students from these countries. There are wide differences, however, among various forms of involvement and between sexes. National differences were observed, though often of no great magnitude. In general however, the United States student appeared to have a greater involvement in sport than those of the other three countries. Males from all countries appeared to be more involved than females; and younger students (lower level), are more involved than older students (upper level). It is also apparent that those activities toward which the most positive attitudes were expressed, as reported in Chapter Three, appeared to be the most popular forms of both primary and secondary involvement.

Although not a major objective of this study, some preliminary attempts to explain the results, as given here, are described in Chapter Six.

CHAPTER FIVE

CORRELATES OF ATTITUDE TOWARD PHYSICAL ACTIVITY

The purpose of this chapter is to present the results of efforts to determine the explanatory power of certain variables thought to be associated with attitude toward physical activity. Following a brief introduction, the findings are presented separately for each dimension of the conceptual model used to characterize physical activity. The chapter is concluded with a summary of the results.

I. Introduction

As outlined in Chapters One and Two, and based upon theories of attitude formation and change, it was hypothesized that attitudes toward the various dimensions of physical activity are a function of a combination of behavioral, dispositional and situational factors. Although the magnitude of the study did not permit exploring the explanatory power of all plausible variables, efforts were made to include some from each category. For example, the degree of involvement (as a behavioral variable) in one kind of activity was considered in explaining attitudes toward the same activity. Also, certain dispositional traits and situational variables, as explained in Chapter Two, were hypothesized to be associated with attitude toward a particular form of physical activity. Thus for each attitude dimension, the explanatory power of a combination of variables thought to be related, together with some variables that were found to be related on the basis of an intercorrelation of all variables (see Appendix G), was tested, using a non-symetrical branching process (Automatic Interaction Detection), as described in Chapter Two.

This permitted the determination of the amount of variance of the dependent variable (attitude) which was accounted for by the several independent variables. The results are given separately for each attitude dimension.

II. Explanatory Power of Attitudinal Correlates

For each of the seven dimensions of attitude toward physical activity the results, will, for the most part, be left to speak for themselves, since there are so many variables, and so many plausible conjectures as to why particular variables did or did not account for some portion of the total variance. For each dimension, four figures will be presented, one for each national sample, showing the variables that were found to be significantly related to the attitude in question. In addition, a table is given, reporting the proportion of variance accounted for by each independent variable.

Correlates of Attitude Toward Socially Oriented Physical Activity

As seen in Table Fifty-three and Figures Six, Seven, Eight, and Nine, the major variables associated with attitude toward physical activity as a social experience are bodv-esteem, socially oriented interests in general, primary involvement in socially oriented physical activity, need for approval, and certain forms of secondary involvement. However, all variables considered together did not account for a large proportion of the total variance. The range was from 37.15 percent for the Canadian sample to 20.04 percent for the United States sample. Some of the unexplained variance can be attributed to unreliability of both the dependent and independent measures. In addition, however, there are likely other variables not included in this study which could add somewhat to the variance explained.

There were few major national differences. However, the number of variables significantly related to attitudes varied from eleven for the Canadian sample to eight each for the Australian and English samples.

Through an examination of the figures, the reader may ascertain the characteristics of the extreme groups[1]. For example, a "high" group is group number forty-two of the United States sample (Figure Nine). The characteristics of the twenty subjects are as follows: medium body-esteem, frequent spectators at sporting events in winter, high in socially oriented values in general, and a product of a moderate to small sized family. Another "high" group is group number twenty-seven. The characteristics of its members (n = 131) are: high body-esteem, female, and membership in families with two or more siblings. In contrast, group number forty-one consists of twenty-one students who are low in body-esteem, male, and have three or more siblings. Numerous other interpretations and comparisons are possible, but are left to the reader. One fact emerges, namely that two or more groups may emerge with similar mean attitude scores, yet possess somewhat different characteristics.

---

[1] The reader is cautioned to take into account group size in making his interpretation. When groups consist of fewer than twenty-five subjects, they obviously do not represent a large proportion of the sample and consequently their characteristics are of limited value for generalizations. The reader is also advised to consider the amount of variance accounted for, both in general, and separately by each variable.

TABLE 53. - PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES, SEPARATELY BY COUNTRY: ATTITUDE TOWARD PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Independent Variable	Canada	Australia	England	United States
Values: Economic	.66	.57	.07	.06
Values: Social	4.66	4.25	3.29	2.08
Participation in Phys. Act.: Social	3.97	.54	6.31	1.21
Peer Part. in Phys. Act.: Social	1.45	.20	1.17	1.74
Televised Phys. Act.: Teen Dance	.22	.36	.64	.27
Sports via Newspaper	4.47	.93	.14	.40
Sports via Books and Magazines	3.67	1.50	1.34	.31
Sports Clubs	1.17	1.63	.30	1.67
Number of Siblings	.17	1.07	.44	.68
Household Head: Education	.46	.64	1.09	1.19
Household Head: Occupation	.78	1.64	.45	.77
Sports Attendance in Summer	2.56	*	2.48	.49
Sports Attendance in Winter	2.31	*	1.09	.92
Level	.47	1.30	.22	.07
Sex	.45	.01	3.20	1.34
Body Esteem	6.51	5.11	3.18	3.82
Need for Approval	1.74	3.07	2.69	1.96
Self Esteem	.50	1.20	.17	.78
Relation with Father	.93	*	.06	.28
Total	37.15	24.02	28.33	20.04

*Data on this variable is unavailable from the Australian sample.

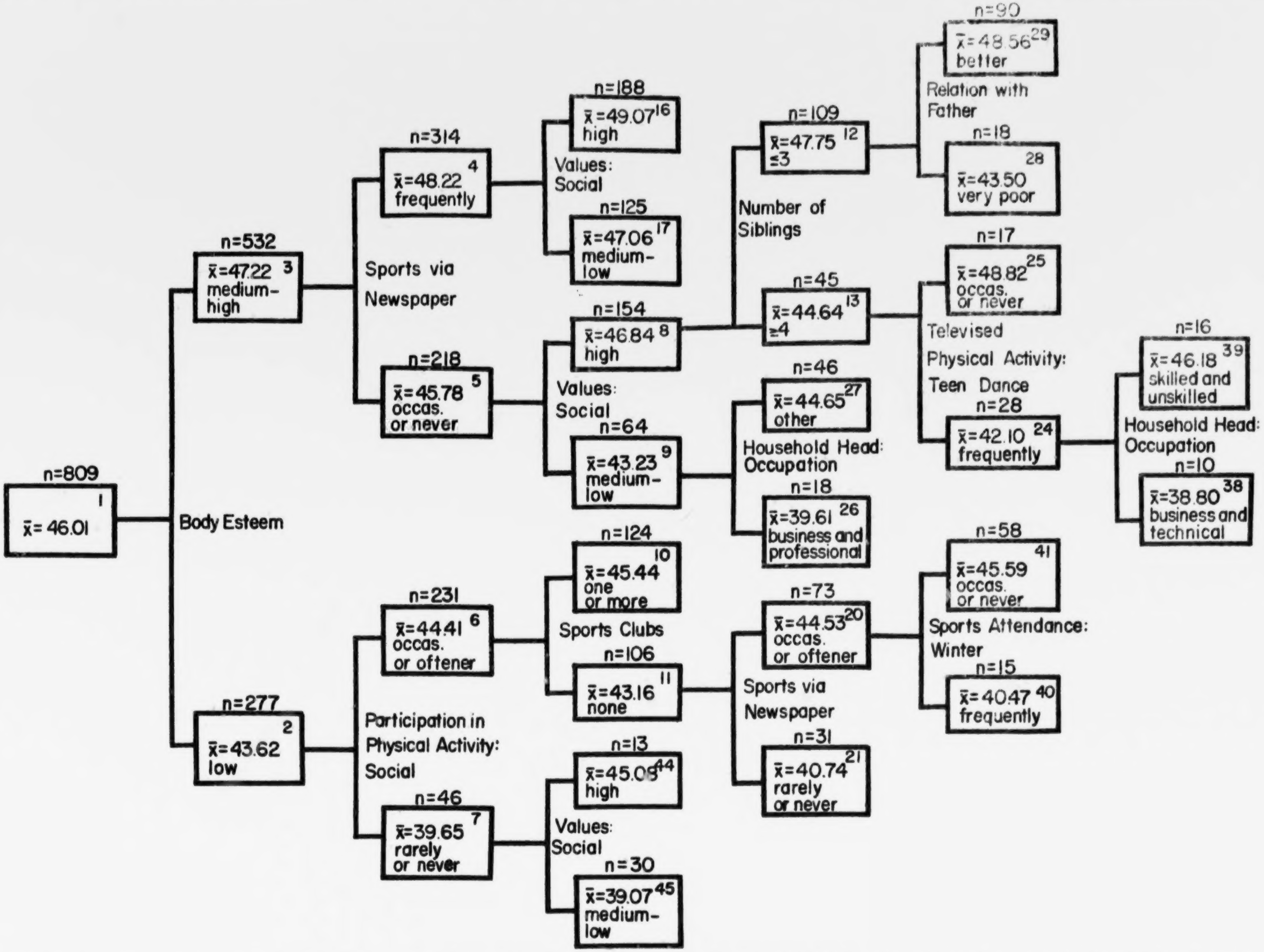
n=809
x̄= 46.01 1
Body Esteem
n=532
x̄=47.22 3 medium-high
n=277
x̄=43.62 2 low
Sports via Newspaper
n=314
x̄=48.22 4 frequently
n=218
x̄=45.78 5 occas. or never
Participation in Physical Activity: Social
n=231
x̄=44.41 6 occas. or oftener
n=46
x̄=39.65 7 rarely or never
Values: Social
n=188
x̄=49.07 16 high
n=125
x̄=47.06 17 medium-low
Values: Social
n=154
x̄=46.84 8 high
n=64
x̄=43.23 9 medium-low
Sports Clubs
n=124
x̄=45.44 10 one or more
n=106
x̄=43.16 11 none
Values: Social
n=13
x̄=45.08 44 high
n=30
x̄=39.07 45 medium-low
Number of Siblings
n=109
x̄=47.75 12 ≤3
n=45
x̄=44.64 13 ≥4
Household Head: Occupation
n=46
x̄=44.65 27 other
n=18
x̄=39.61 26 business and professional
Sports via Newspaper
n=73
x̄=44.53 20 occas. or oftener
n=31
x̄=40.74 21 rarely or never
Relation with Father
n=90
x̄=48.56 29 better
n=18
x̄=43.50 28 very poor
Televised Physical Activity: Teen Dance
n=17
x̄=48.82 25 occas. or never
n=28
x̄=42.10 24 frequently
Sports Attendance: Winter
n=58
x̄=45.59 41 occas. or never
n=15
x̄=40.47 40 frequently
Household Head: Occupation
n=16
x̄=46.18 39 skilled and unskilled
n=10
x̄=38.80 38 business and technical

FIGURE 6. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE AMONG CANADIAN SECONDARY SCHOOL STUDENTS

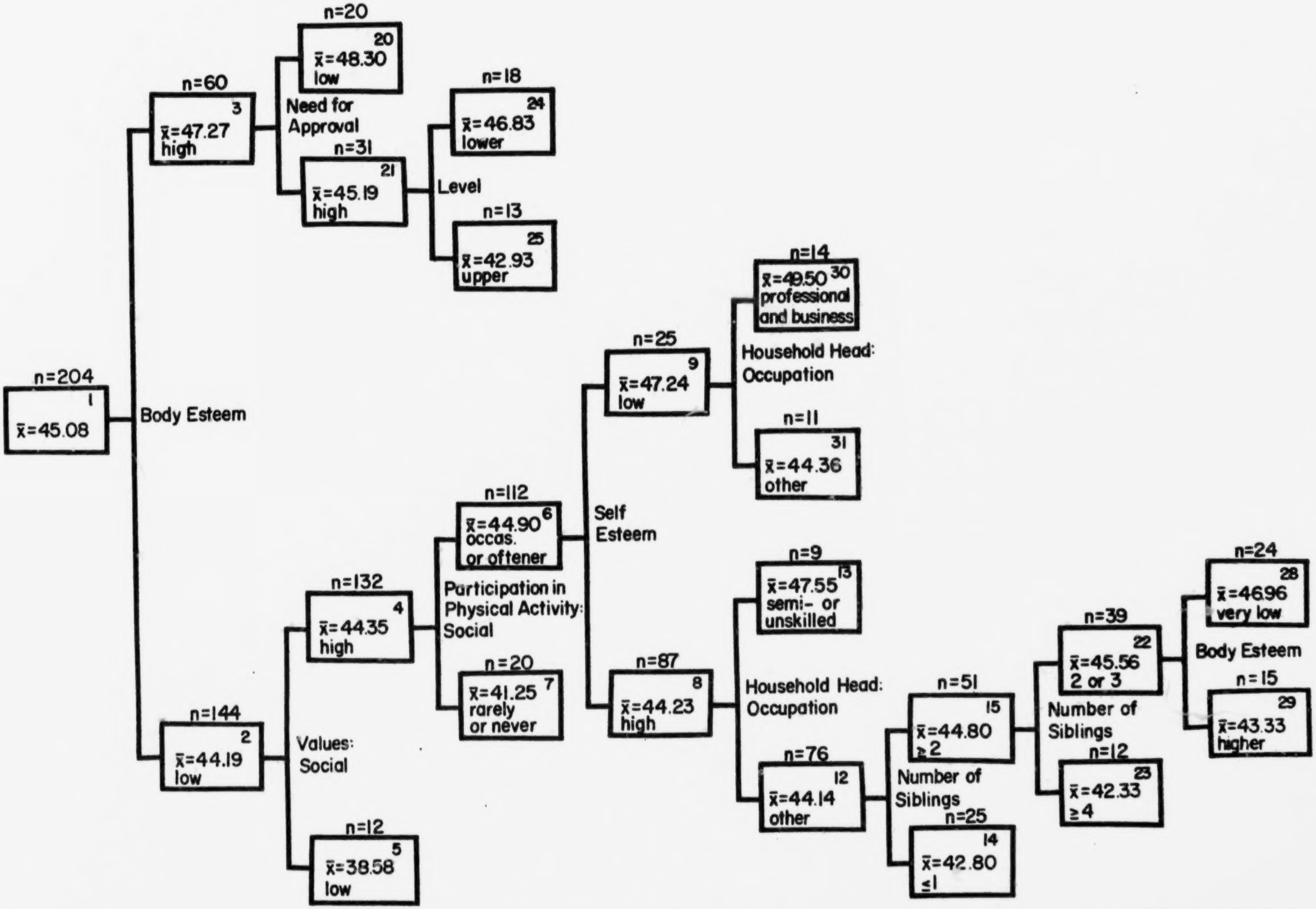
n=204
1
x̄=45.08
Body Esteem
n=60
3
x̄=47.27
high
Need for Approval
n=20
20
x̄=48.30
low
n=31
21
x̄=45.19
high
Level
n=18
24
x̄=46.83
lower
n=13
25
x̄=42.93
upper
n=144
2
x̄=44.19
low
Values: Social
n=132
4
x̄=44.35
high
n=12
5
x̄=38.58
low
Participation in Physical Activity: Social
n=112
6
x̄=44.90
occas. or oftener
n=20
7
x̄=41.25
rarely or never
Self Esteem
n=25
9
x̄=47.24
low
Household Head: Occupation
n=14
30
x̄=49.50
professional and business
n=11
31
x̄=44.36
other
n=87
8
x̄=44.23
high
Household Head: Occupation
n=9
13
x̄=47.55
semi- or unskilled
n=76
12
x̄=44.14
other
Number of Siblings
n=51
15
x̄=44.80
≥2
n=25
14
x̄=42.80
≤1
Number of Siblings
n=39
22
x̄=45.56
2 or 3
n=12
23
x̄=42.33
≥4
Body Esteem
n=24
28
x̄=46.96
very low
n=15
29
x̄=43.33
higher

FIGURE 7. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE AMONG AUSTRALIAN SECONDARY SCHOOL STUDENTS

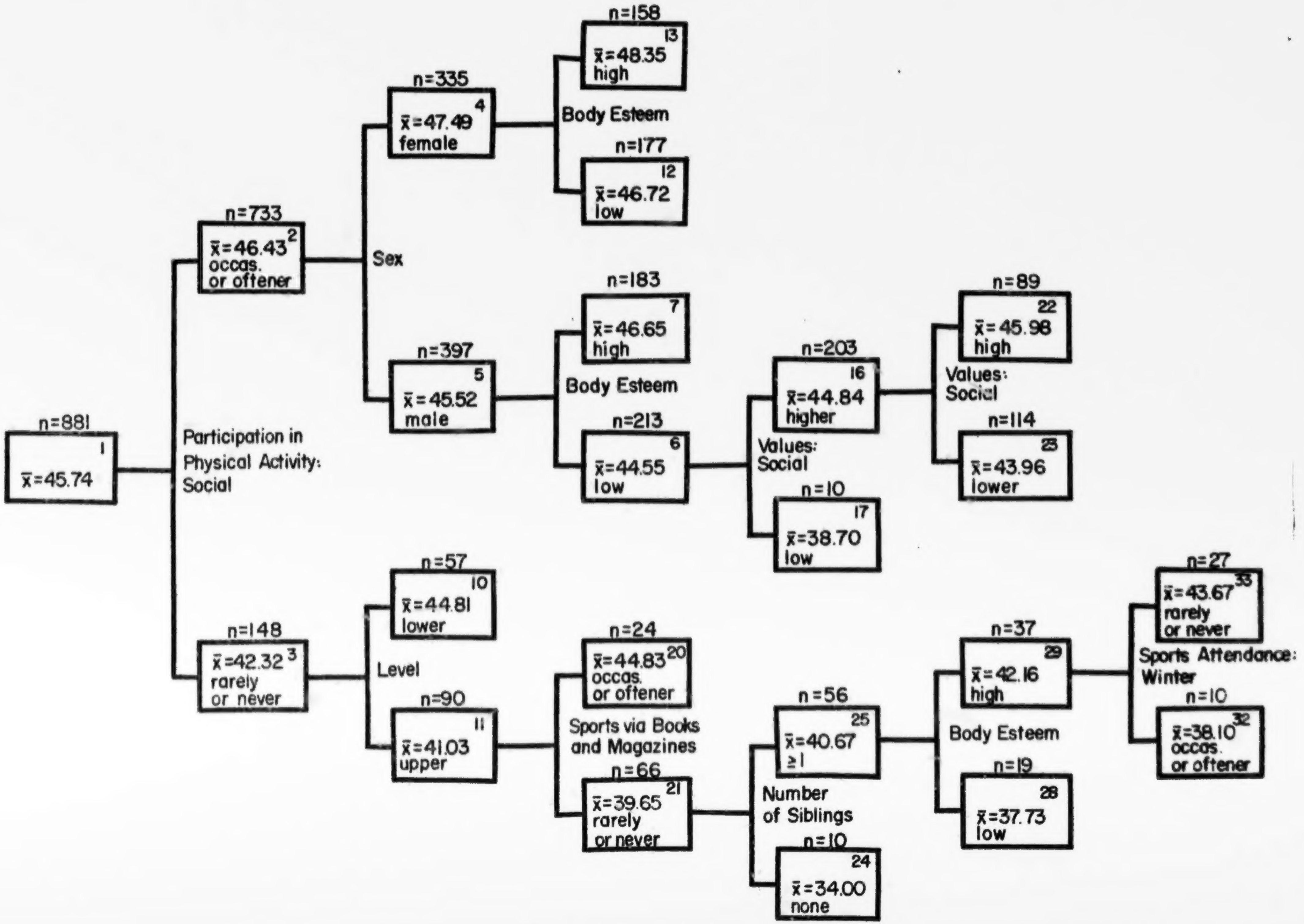
n=881
1
x̄=45.74
Participation in Physical Activity: Social
n=733
x̄=46.43 2
occas. or oftener
n=148
x̄=42.32 3
rarely or never
Sex
n=335
x̄=47.49 4
female
n=397
5
x̄=45.52
male
Body Esteem
n=158
13
x̄=48.35
high
n=177
12
x̄=46.72
low
Body Esteem
n=183
7
x̄=46.65
high
n=213
6
x̄=44.55
low
Values: Social
n=203
16
x̄=44.84
higher
n=10
17
x̄=38.70
low
Values: Social
n=89
22
x̄=45.98
high
n=114
23
x̄=43.96
lower
Level
n=57
10
x̄=44.81
lower
n=90
11
x̄=41.03
upper
Sports via Books and Magazines
n=24
x̄=44.83 20
occas. or oftener
n=66
x̄=39.65 21
rarely or never
Number of Siblings
n=56
25
x̄=40.67
≥1
n=10
24
x̄=34.00
none
Body Esteem
n=37
29
x̄=42.16
high
n=19
28
x̄=37.73
low
Sports Attendance: Winter
n=27
x̄=43.67 33
rarely or never
n=10
x̄=38.10 32
occas. or oftener

FIGURE 8. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE AMONG ENGLISH SECONDARY SCHOOL STUDENTS

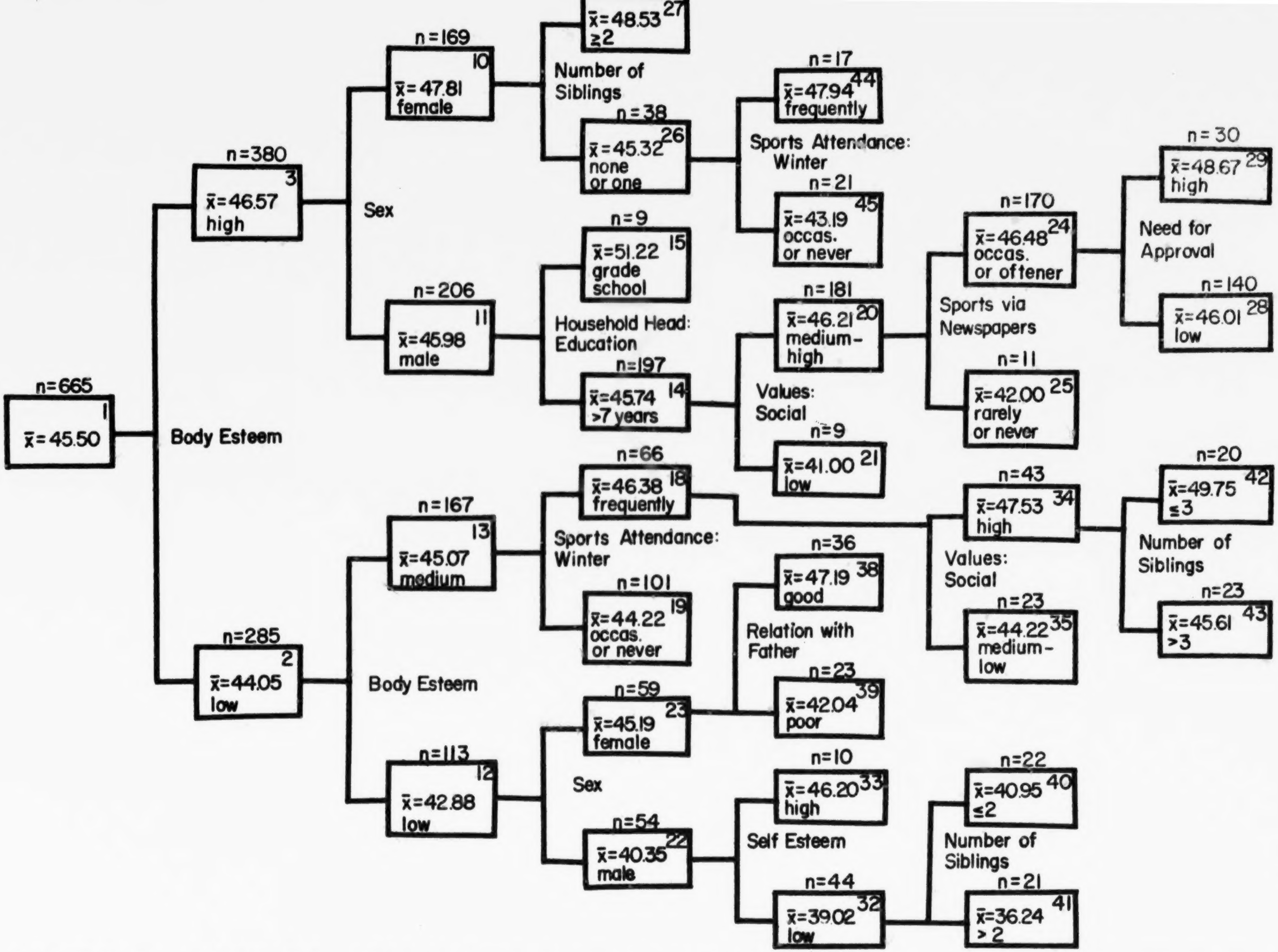
n=665
1
x̄=45.50
Body Esteem
n=380
3
x̄=46.57
high
n=285
2
x̄=44.05
low
Sex
n=169
10
x̄=47.81
female
n=206
11
x̄=45.98
male
Body Esteem
n=167
13
x̄=45.07
medium
n=113
12
x̄=42.88
low
27
x̄=48.53
≥2
Number of Siblings
n=38
26
x̄=45.32
none or one
n=9
15
x̄=51.22
grade school
Household Head: Education
n=197
14
x̄=45.74
>7 years
n=66
18
x̄=46.38
frequently
Sports Attendance: Winter
n=101
19
x̄=44.22
occas. or never
n=59
23
x̄=45.19
female
Sex
n=54
22
x̄=40.35
male
n=17
44
x̄=47.94
frequently
Sports Attendance: Winter
n=21
45
x̄=43.19
occas. or never
n=181
20
x̄=46.21
medium-high
Values: Social
n=9
21
x̄=41.00
low
n=36
38
x̄=47.19
good
Relation with Father
n=23
39
x̄=42.04
poor
n=10
33
x̄=46.20
high
Self Esteem
n=44
32
x̄=39.02
low
n=170
24
x̄=46.48
occas. or oftener
Sports via Newspapers
n=11
25
x̄=42.00
rarely or never
n=43
34
x̄=47.53
high
Values: Social
n=23
35
x̄=44.22
medium-low
n=22
40
x̄=40.95
≤2
Number of Siblings
n=21
41
x̄=36.24
>2
n=30
29
x̄=48.67
high
Need for Approval
n=140
28
x̄=46.01
low
n=20
42
x̄=49.75
≤3
Number of Siblings
n=23
43
x̄=45.61
>3

FIGURE 9. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE AMONG U.S. SECONDARY SCHOOL STUDENTS

Correlates of Attitude Toward Fitness Oriented Physical Activity

The results of the analysis of potential correlates of attitude toward physical activity perceived as health and fitness are given in Table Fifty-four and Figures Ten, Eleven, Twelve, and Thirteen. Again, only a portion of the total variance was explained. The major contributing variables were body-esteem, and need for approval. High body-esteem and high need for approval are associated with high positive attitude toward health oriented physical activity. However, with respect to the attitude-need for approval association, the relationship was negative for some portions of the Australian sample, but usually for only very small groups.

A representative "high" group, drawing from the United States data is group eleven (Figure Thirteen). Its ninety-four members are high in body-esteem and tend to engage in fitness oriented physical activity. The students in group twenty-eight (n = 22) from the same sample are at the lower end of the attitude distribution and are very low is body-esteem, but maintain good relations with their fathers. Group thirty-three (n = 77) of the Canadian sample, representing another "low" attitude group, can be characterized as low in secondary involvement, i.e., low in sport via newspaper, in frequency of viewing televised sport, and in sports attendance (summer); and low in body-esteem, in need for approval and in sport club membership.

It appears that there is remarkable similarity among the four countries in variables associated with attitude toward physical activity for health and fitness. For details of minor differences the reader should consult the tabular and graphic material.

TABLE 54. - PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES, SEPARATELY BY COUNTRY: ATTITUDE TOWARD PHYSICAL ACTIVITY AS HEALTH AND FITNESS

Independent Variable	Canada	Australia	England	United States
Values: Economic	.60	2.05	.17	.87
Values: Political	.52	1.18	.37	.34
Values: Religious	.90	.39	.17	.64
Participation in Phys. Act.: Fitness	2.40	.26	1.53	3.14
Peer Part. in Phys. Act.: Fitness	1.44	.14	.49	.56
Televised Physical Activity: Fitness	2.41	.16	2.32	.95
Sports via Newspaper	3.39	.02	.80	.49
Sports via Books and Magazines	2.83	1.56	2.16	2.19
Sports Clubs	.37	.24	.69	1.03
Number of Siblings	.11	1.50	.81	.30
Birth Order	.46	6.39	.50	.20
Household Head: Education	.24	.49	.31	1.86
Household Head: Occupation	.81	.70	1.12	.27
Religious Preference	.42	*	.99	.41
Religious Attendance	.04	*	.77	.20
Sports Attendance in Summer	2.04	*	3.43	.35
Sports Attendance in Winter	1.63	*	1.47	.82
Level	1.64	2.54	2.48	.11
Sex	.09	.19	1.64	.31
Body Esteem	2.77	6.19	2.74	5.08
Need for Approval	2.39	1.54	.97	2.55
Self Esteem	.40	2.37	.08	.79
Relation with Father	.52	*	.30	.08
Total	28.42	27.91	26.31	23.54

*Data on this variable is unavailable from the Australian sample.

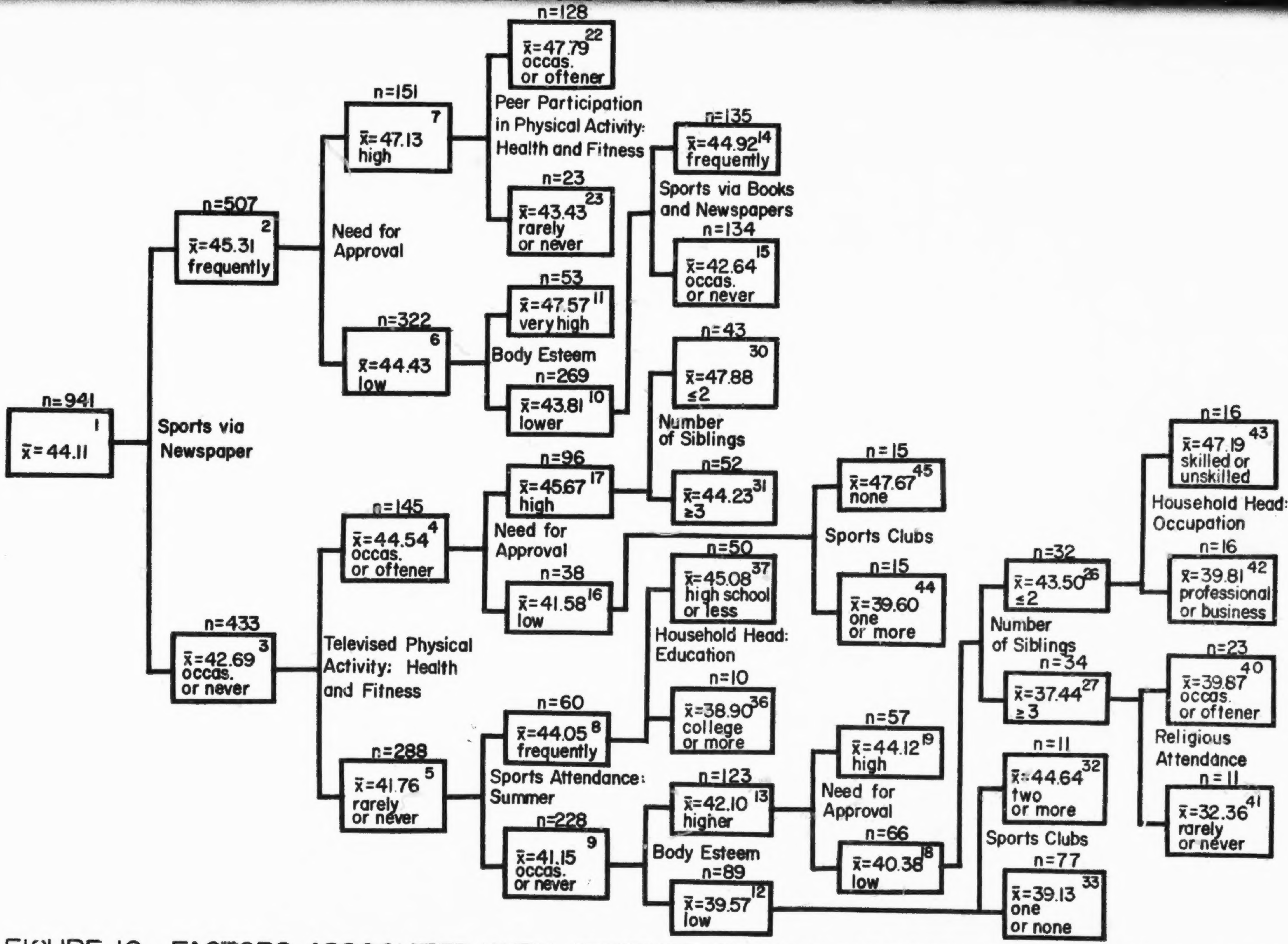
n=941
x̄=44.11
1
Sports via Newspaper
n=507
x̄=45.31 frequently
2
n=433
x̄=42.69 occas. or never
3
Need for Approval
n=151
x̄=47.13 high
7
n=322
x̄=44.43 low
6
Televised Physical Activity: Health and Fitness
n=145
x̄=44.54 occas. or oftener
4
n=288
x̄=41.76 rarely or never
5
Peer Participation in Physical Activity: Health and Fitness
n=128
x̄=47.79 occas. or oftener
22
n=23
x̄=43.43 rarely or never
23
Body Esteem
n=53
x̄=47.57 very high
11
n=269
x̄=43.81 lower
10
Need for Approval
n=96
x̄=45.67 high
17
n=38
x̄=41.58 low
16
Sports Attendance: Summer
n=60
x̄=44.05 frequently
8
n=228
x̄=41.15 occas. or never
9
Sports via Books and Newspapers
n=135
x̄=44.92 frequently
14
n=134
x̄=42.64 occas. or never
15
Number of Siblings
n=43
x̄=47.88 ≤2
30
n=52
x̄=44.23 ≥3
31
Household Head: Education
n=50
x̄=45.08 high school or less
37
n=10
x̄=38.90 college or more
36
Body Esteem
n=123
x̄=42.10 higher
13
n=89
x̄=39.57 low
12
Sports Clubs
n=15
x̄=47.67 none
45
n=15
x̄=39.60 one or more
44
Need for Approval
n=57
x̄=44.12 high
19
n=66
x̄=40.38 low
18
Number of Siblings
n=32
x̄=43.50 ≤2
26
n=34
x̄=37.44 ≥3
27
Sports Clubs
n=11
x̄=44.64 two or more
32
n=77
x̄=39.13 one or none
33
Household Head: Occupation
n=16
x̄=47.19 skilled or unskilled
43
n=16
x̄=39.81 professional or business
42
Religious Attendance
n=23
x̄=39.87 occas. or oftener
40
n=11
x̄=32.36 rarely or never
41

FIGURE 10. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS HEALTH AND FITNESS AMONG CANADIAN SECONDARY SCHOOL STUDENTS

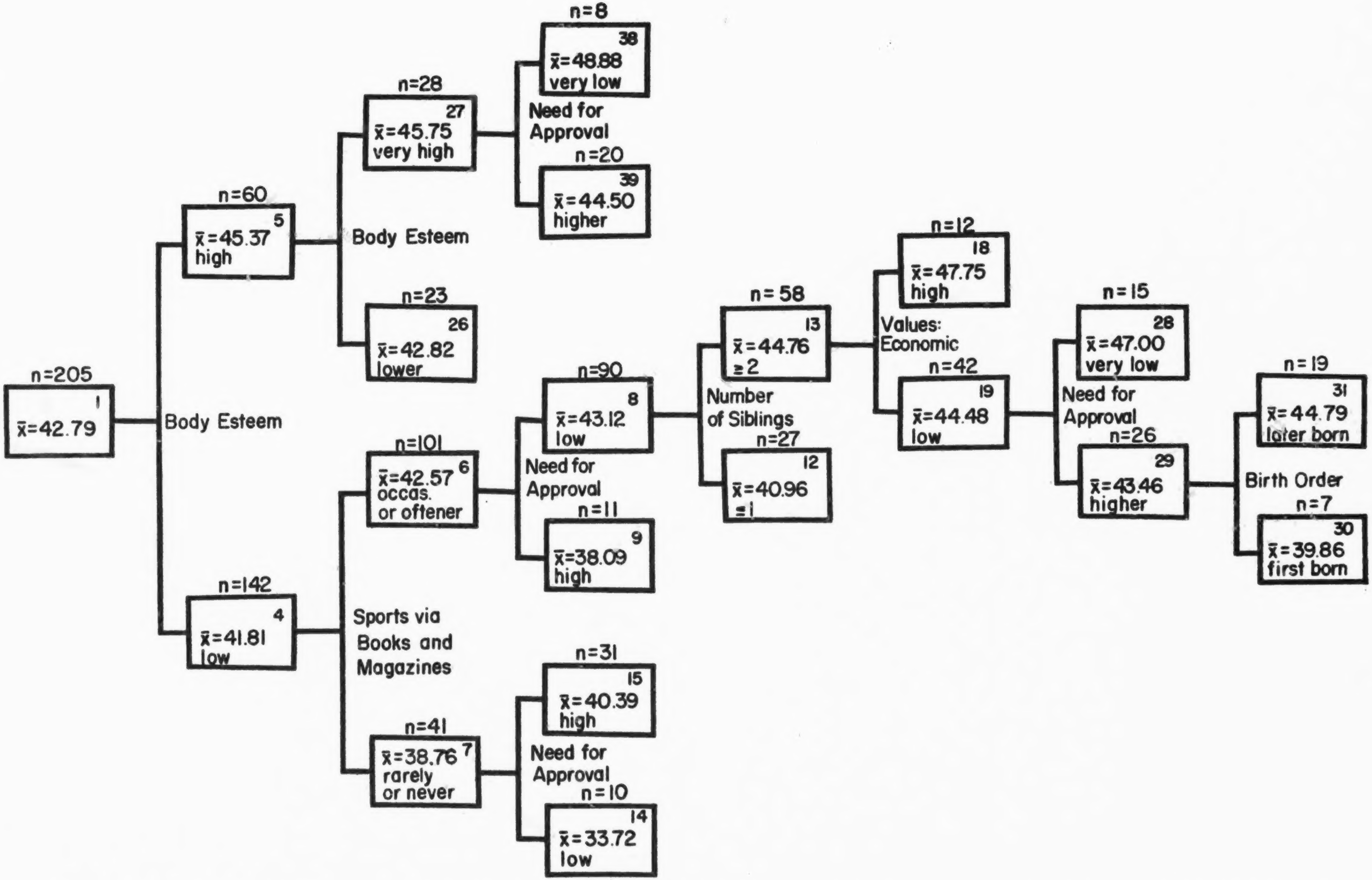
n=205
1
x̄=42.79
Body Esteem
n=60
5
x̄=45.37
high
n=142
4
x̄=41.81
low
Body Esteem
n=28
27
x̄=45.75
very high
n=23
26
x̄=42.82
lower
Need for Approval
n=8
38
x̄=48.88
very low
n=20
39
x̄=44.50
higher
Sports via Books and Magazines
n=101
6
x̄=42.57
occas.
or oftener
n=41
7
x̄=38.76
rarely
or never
Need for Approval
n=90
8
x̄=43.12
low
n=11
9
x̄=38.09
high
Need for Approval
n=31
15
x̄=40.39
high
n=10
14
x̄=33.72
low
Number of Siblings
n=58
13
x̄=44.76
≥2
n=27
12
x̄=40.96
≤1
Values: Economic
n=12
18
x̄=47.75
high
n=42
19
x̄=44.48
low
Need for Approval
n=15
28
x̄=47.00
very low
n=26
29
x̄=43.46
higher
Birth Order
n=19
31
x̄=44.79
later born
n=7
30
x̄=39.86
first born

FIGURE II. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS HEALTH AND FITNESS AMONG AUSTRALIAN SECONDARY SCHOOL STUDENTS

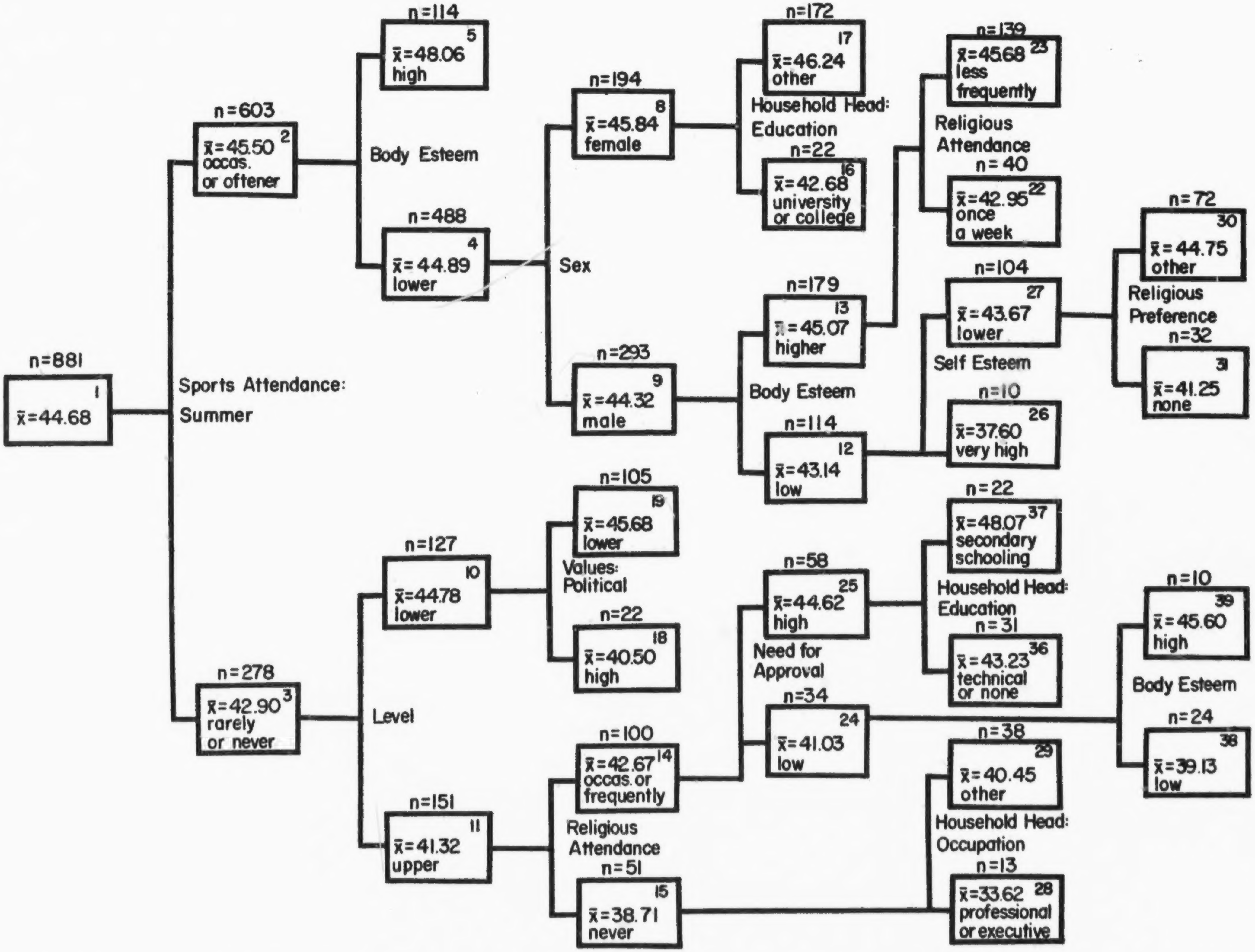
n=881
1
$\bar{x}$=44.68
Sports Attendance:
Summer
n=603
2
$\bar{x}$=45.50
occas.
or oftener
n=278
3
$\bar{x}$=42.90
rarely
or never
Body Esteem
n=114
5
$\bar{x}$=48.06
high
n=488
4
$\bar{x}$=44.89
lower
Sex
n=194
8
$\bar{x}$=45.84
female
n=293
9
$\bar{x}$=44.32
male
Household Head:
Education
n=172
17
$\bar{x}$=46.24
other
n=22
16
$\bar{x}$=42.68
university
or college
Body Esteem
n=179
13
$\bar{x}$=45.07
higher
n=114
12
$\bar{x}$=43.14
low
Religious
Attendance
n=139
23
$\bar{x}$=45.68
less
frequently
n= 40
22
$\bar{x}$=42.95
once
a week
Self Esteem
n=104
27
$\bar{x}$=43.67
lower
n=10
26
$\bar{x}$=37.60
very high
Religious
Preference
n=72
30
$\bar{x}$=44.75
other
n=32
31
$\bar{x}$=41.25
none
Level
n=127
10
$\bar{x}$=44.78
lower
n=151
11
$\bar{x}$=41.32
upper
Values:
Political
n=105
19
$\bar{x}$=45.68
lower
n=22
18
$\bar{x}$=40.50
high
Religious
Attendance
n=100
14
$\bar{x}$=42.67
occas. or
frequently
n=51
15
$\bar{x}$=38.71
never
Need for
Approval
n=58
25
$\bar{x}$=44.62
high
n=34
24
$\bar{x}$=41.03
low
Household Head:
Education
n=22
37
$\bar{x}$=48.07
secondary
schooling
n=31
36
$\bar{x}$=43.23
technical
or none
Household Head:
Occupation
n=38
29
$\bar{x}$=40.45
other
n=13
28
$\bar{x}$=33.62
professional
or executive
Body Esteem
n=10
39
$\bar{x}$=45.60
high
n=24
38
$\bar{x}$=39.13
low

FIGURE 12. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS HEALTH AND FITNESS AMONG ENGLISH SECONDARY SCHOOL STUDENTS

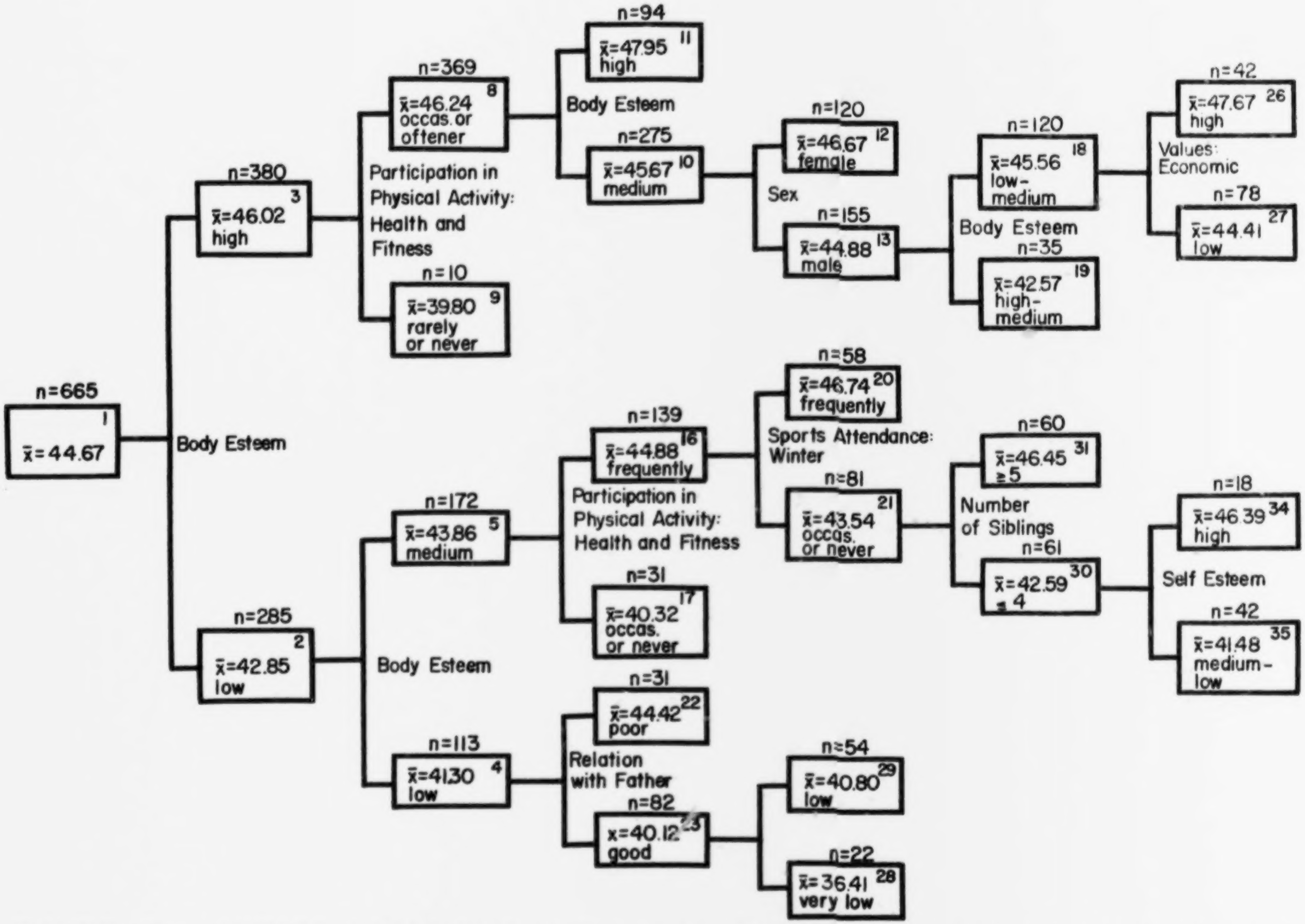
n=665
1
x̄=44.67
Body Esteem
n=380
x̄=46.02 3
high
n=285
x̄=42.85 2
low
Participation in Physical Activity: Health and Fitness
n=369
x̄=46.24 8
occas. or oftener
n=10
x̄=39.80 9
rarely or never
Body Esteem
n=94
x̄=47.95 11
high
n=275
x̄=45.67 10
medium
Sex
n=120
x̄=46.67 12
female
n=155
x̄=44.88 13
male
Body Esteem
n=120
x̄=45.56 18
low-medium
n=35
x̄=42.57 19
high-medium
Values: Economic
n=42
x̄=47.67 26
high
n=78
x̄=44.41 27
low
Body Esteem
n=172
x̄=43.86 5
medium
n=113
x̄=41.30 4
low
Participation in Physical Activity: Health and Fitness
n=139
x̄=44.88 16
frequently
n=31
x̄=40.32 17
occas. or never
Sports Attendance: Winter
n=58
x̄=46.74 20
frequently
n=81
x̄=43.54 21
occas. or never
Number of Siblings
n=60
x̄=46.45 31
≥5
n=61
x̄=42.59 30
≤4
Self Esteem
n=18
x̄=46.39 34
high
n=42
x̄=41.48 35
medium-low
Relation with Father
n=31
x̄=44.42 22
poor
n=82
x=40.12 23
good
n=54
x̄=40.80 29
low
n=22
x̄=36.41 28
very low

FIGURE 13. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS HEALTH AND FITNESS AMONG U.S. SECONDARY SCHOOL STUDENTS

Correlates of Attitude Toward Vertiginous Physical Activity

For the Canadian and Australian samples nearly half of the variance associated with attitude toward physical activity as the pursuit of vertigo was accounted for by the various independent variables used in this phase of the study. However, the proportion dropped to approximately one-quarter for the English and the United States samples. Moreover, there were some national differences with respect to some of the contributing variables. However, it is quite clear upon examining the data presented in Table Fifty-five and Figures Fourteen, Fifteen, Sixteen, and Seventeen, that there is a close association between primary and secondary involvement in vertiginous activity and attitude toward it. The most important involvement variable was the frequency of actual participation in vertiginous activity, with peer participation and secondary involvement contributing considerable variance in some cases. Certain other variables were important for a particular national sample.

An example "high" group is seen in the United States data. Group eight (n = 118) are catholic and participate frequently in vertiginous activity. At the other extreme Group thirteen (n = 42) rarely or never participate in vertiginous physical activity, or view it on television. Group fourteen (n = 18) of the English sample, a "high" group is made up of students who come from families in which they were the "only" child, high in body-esteem, are at the lower level of educational attainment, and are occasional or oftener participants in vertiginous physical activity. In contrast is a "low" group (number 23, n = 16) from the Australian sample, the members of which are high in body-esteem, have two or more siblings but rarely, if ever participate in vertiginous physical activity.

TABLE 55 - PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES, SEPARATELY BY COUNTRY: ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO

Independent Variable	Canada	Australia	England	United States
Values: Political	1.07	4.38	.47	.33
Participation in Phys. Act.: Vertigo	12.21	10.14	5.39	10.85
Peer Part. In Phys. Act.: Vertigo	6.19	8.42	.68	2.22
Televised Phys. Act.: Vertigo	4.50	.38	.80	2.30
TV Phys. Act.: Coll. & Prof. Sport	2.41	.04	.47	.73
Sports via Newspaper	2.80	1.61	.97	.45
Sports via Books and Magazines	3.62	1.61	1.56	.42
Sports Clubs	1.09	2.08	1.74	.70
Number of Siblings	.18	3.48	.46	.14
Birth Order	.69	.75	.63	.49
Household Head: Education	.52	1.50	.42	1.04
Household Head: Occupation	.42	.62	.49	.40
Religious Preference	.82	*	.26	.81
Religious Attendance	1.74	*	.05	.66
Sports Attendance in Summer	1.45	*	2.90	.19
Sports Attendance in Winter	1.92	*	.91	.72
Level	.00	.12	.66	.00
Sex	3.21	4.61	.61	.22
Body Esteem	.55	3.35	1.85	3.05
Need for Approval	.47	2.63	.68	.35
Self Esteem	.41	2.28	.79	.81
Relation with Father	.27	*	.30	1.61
Total	46.54	48.00	23.09	28.49

*Data on this variable is unavailable from the Australian sample.

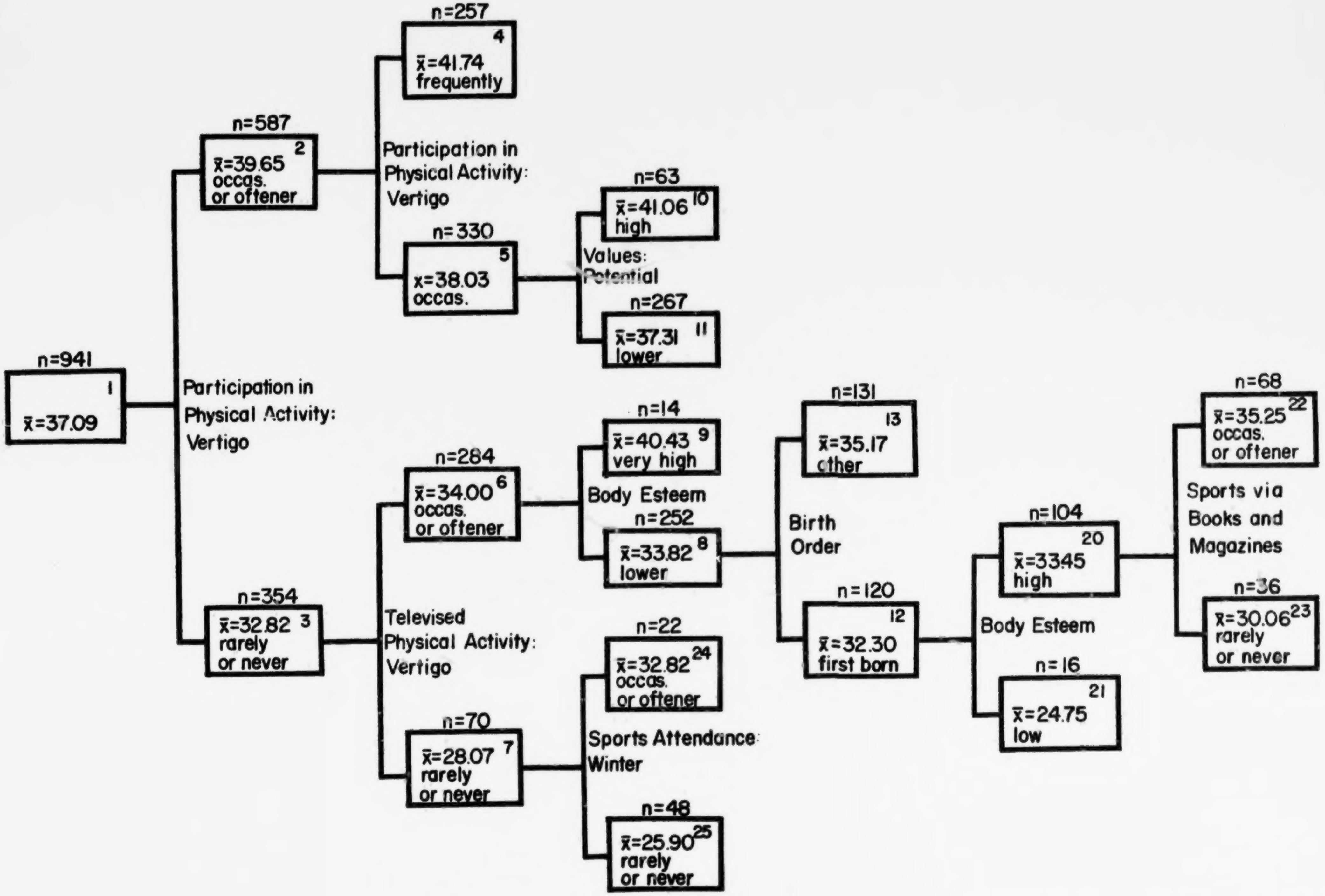
n=941
1
x̄=37.09
Participation in
Physical Activity:
Vertigo
n=587
x̄=39.65 2
occas.
or oftener
n=354
x̄=32.82 3
rarely
or never
Participation in
Physical Activity:
Vertigo
n=257
4
x̄=41.74
frequently
n=330
5
x=38.03
occas.
Values:
Potential
n=63
x̄=41.06 10
high
n=267
x̄=37.31 11
lower
Televised
Physical Activity:
Vertigo
n=284
x̄=34.00 6
occas.
or oftener
n=70
x̄=28.07 7
rarely
or never
Body Esteem
n=14
x̄=40.43 9
very high
n=252
x̄=33.82 8
lower
Sports Attendance:
Winter
n=22
x̄=32.82 24
occas.
or oftener
n=48
x̄=25.90 25
rarely
or never
Birth
Order
n=131
13
x̄=35.17
other
n=120
12
x̄=32.30
first born
Body Esteem
n=104
20
x̄=33.45
high
n=16
21
x̄=24.75
low
Sports via
Books and
Magazines
n=68
x̄=35.25 22
occas.
or oftener
n=36
x̄=30.06 23
rarely
or never

FIGURE 14. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO AMONG CANADIAN SECONDARY SCHOOL STUDENTS

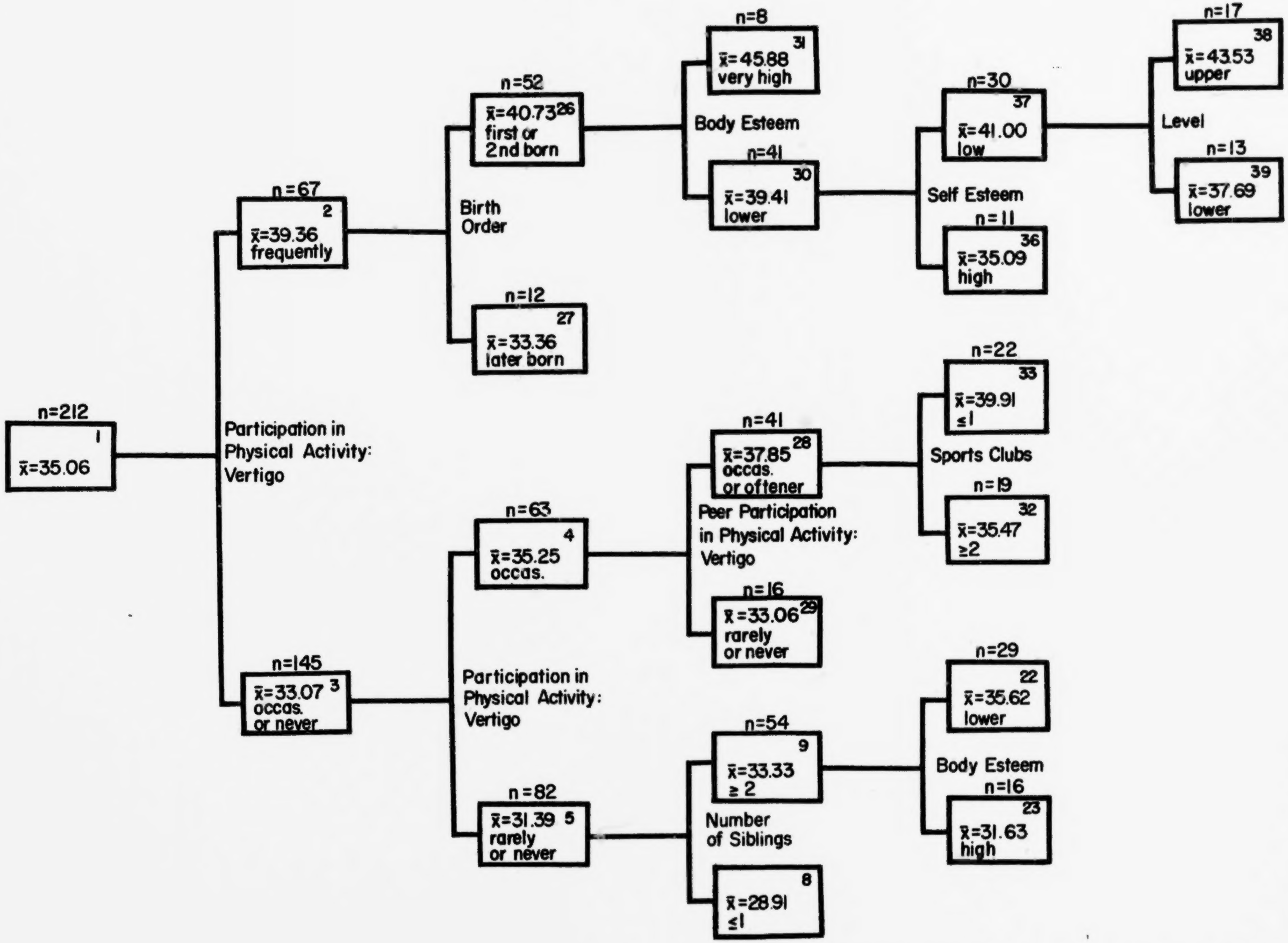
n=212
1
x̄=35.06
Participation in Physical Activity: Vertigo
n=67
2
x̄=39.36 frequently
n=145
3
x̄=33.07 occas. or never
Birth Order
n=52
26
x̄=40.73 first or 2nd born
n=12
27
x̄=33.36 later born
Participation in Physical Activity: Vertigo
n=63
4
x̄=35.25 occas.
n=82
5
x̄=31.39 rarely or never
Body Esteem
n=8
31
x̄=45.88 very high
n=41
30
x̄=39.41 lower
Peer Participation in Physical Activity: Vertigo
n=41
28
x̄=37.85 occas. or oftener
n=16
29
x̄=33.06 rarely or never
Number of Siblings
n=54
9
x̄=33.33 ≥2
8
x̄=28.91 ≤1
Self Esteem
n=30
37
x̄=41.00 low
n=11
36
x̄=35.09 high
Sports Clubs
n=22
33
x̄=39.91 ≤1
n=19
32
x̄=35.47 ≥2
Body Esteem
n=29
22
x̄=35.62 lower
n=16
23
x̄=31.63 high
Level
n=17
38
x̄=43.53 upper
n=13
39
x̄=37.69 lower

FIGURE 15. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO AMONG AUSTRALIAN SECONDARY SCHOOL STUDENTS

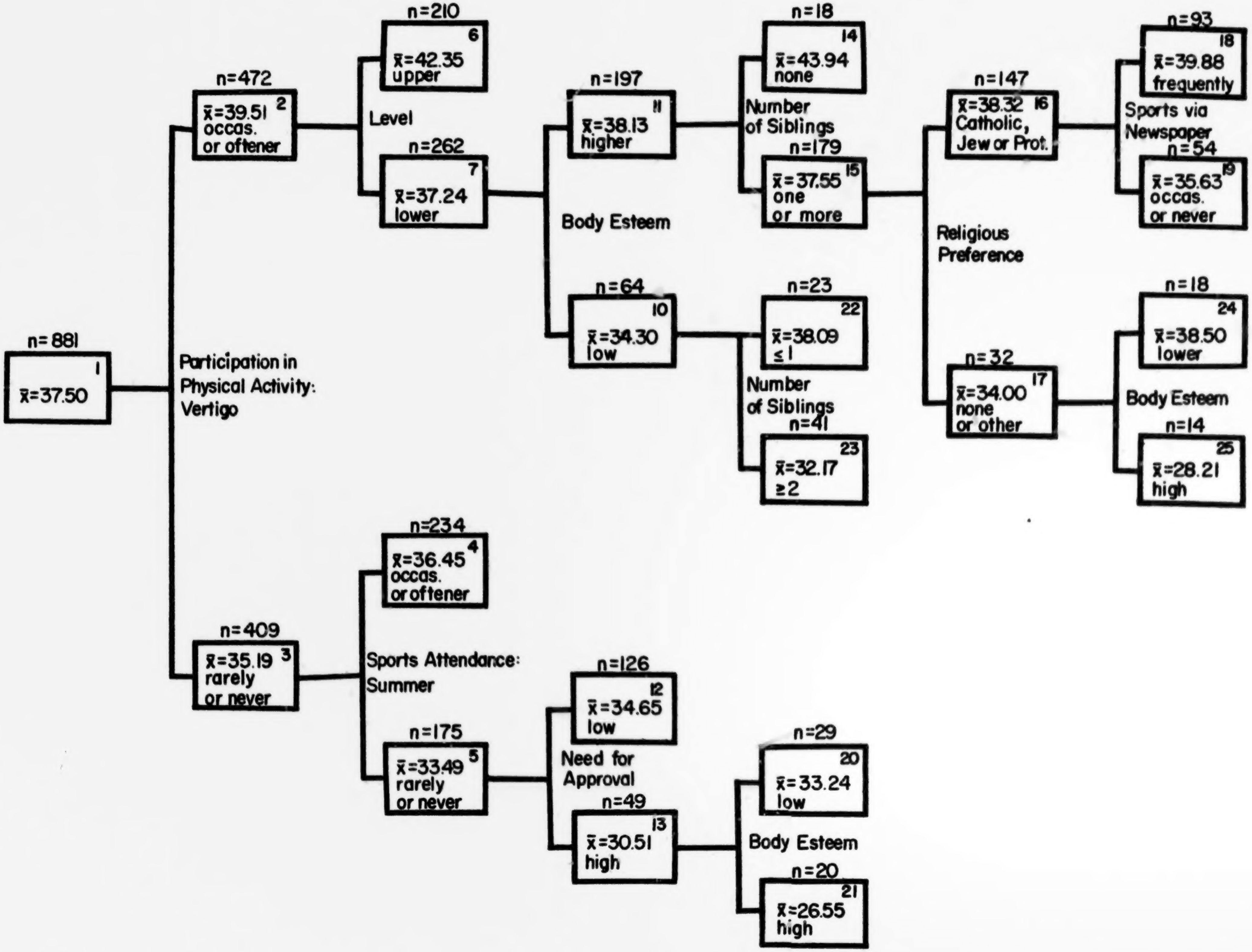
n=881
1
x̄=37.50
Participation in Physical Activity: Vertigo
n=472
x̄=39.51 2
occas. or oftener
n=409
x̄=35.19 3
rarely or never
Level
n=210
6
x̄=42.35
upper
n=262
7
x̄=37.24
lower
Sports Attendance: Summer
n=234
x̄=36.45 4
occas. or oftener
n=175
x̄=33.49 5
rarely or never
Body Esteem
n=197
11
x̄=38.13
higher
n=64
10
x̄=34.30
low
Need for Approval
n=126
12
x̄=34.65
low
n=49
13
x̄=30.51
high
Number of Siblings
n=18
14
x̄=43.94
none
n=179
x̄=37.55 15
one or more
Number of Siblings
n=23
22
x̄=38.09
≤1
n=41
23
x̄=32.17
≥2
Body Esteem
n=29
20
x̄=33.24
low
n=20
21
x̄=26.55
high
Religious Preference
n=147
x̄=38.32 16
Catholic, Jew or Prot.
n=32
x̄=34.00 17
none or other
Sports via Newspaper
n=93
18
x̄=39.88
frequently
n=54
x̄=35.63 19
occas. or never
Body Esteem
n=18
24
x̄=38.50
lower
n=14
25
x̄=28.21
high

FIGURE 16. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO AMONG ENGLISH SECONDARY SCHOOL STUDENTS

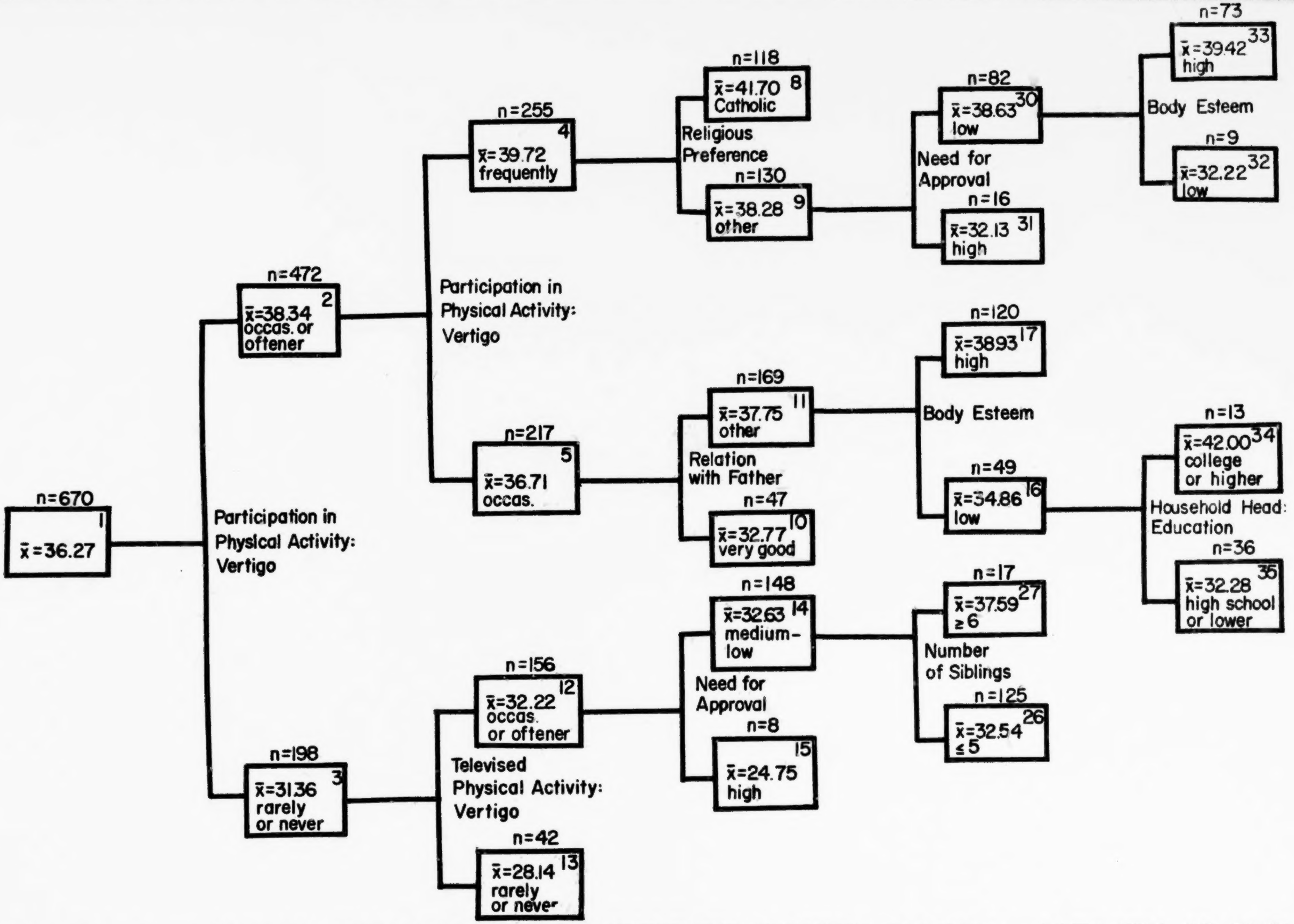
n=670
x̄=36.27 1
Participation in Physical Activity: Vertigo
n=472
x̄=38.34 occas. or oftener 2
n=198
x̄=31.36 rarely or never 3
Participation in Physical Activity: Vertigo
n=255
x̄=39.72 frequently 4
n=217
x̄=36.71 occas. 5
Televised Physical Activity: Vertigo
n=156
x̄=32.22 occas. or oftener 12
n=42
x̄=28.14 rarely or never 13
Religious Preference
n=118
x̄=41.70 Catholic 8
n=130
x̄=38.28 other 9
Relation with Father
n=169
x̄=37.75 other 11
n=47
x̄=32.77 very good 10
Need for Approval
n=148
x̄=32.63 medium-low 14
n=8
x̄=24.75 high 15
Need for Approval
n=82
x̄=38.63 low 30
n=16
x̄=32.13 high 31
Body Esteem
n=120
x̄=38.93 high 17
n=49
x̄=34.86 low 16
Number of Siblings
n=17
x̄=37.59 ≥6 27
n=125
x̄=32.54 ≤5 26
Body Esteem
n=73
x̄=39.42 high 33
n=9
x̄=32.22 low 32
Household Head: Education
n=13
x̄=42.00 college or higher 34
n=36
x̄=32.28 high school or lower 35

FIGURE 17. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS THE PURSUIT OF VERTIGO AMONG U.S. SECONDARY SCHOOL STUDENTS

Correlates of Attitude Toward Aesthetically Perceived Physical Activity

The most important variables accounting for attitude toward physical activity as an aesthetic experience are sex, aesthetic values in general, secondary involvement in aesthetic activity, body-esteem, need for approval and religious preference. The proportion of variance accounted for by each of these was relatively stable across countries. As shown in Table Fifty-six, total variance accounted for ranged from 36.77 percent for the U. S. sample, to 50.20 percent for the Canadian sample. With the exception of the sample representing students from the United States, fewer variables seemed to account for more of the total variance than in the analysis of the three previous dimensions of attitude.

Examining Figures Eighteen, Nineteen, Twenty and Twenty-one permits the selection of certain representative "high" and "low" groups. For example, members of a "low" group (number 30, n=40) from the English male sample have the following characteristics: A good relationship with father, low self-esteem, low body-esteem, and minimal if any exposure to televised aesthetic physical activity. On the other hand a "high" group (group 28, n=25) from the same male sample have a poor relationship with their fathers, value highly economic values in general, are protestant or have no religious preference, and view televised aesthetically oriented physical activity occasionally or oftener. Another example of a "high" group is number forty-seven (n=19) from the United States sample. Students in this group are female, high in body-esteem, view televised aesthetic physical activity occasionally or oftener, and value aesthetic values in general.

TABLE 56 - PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES, SEPARATELY BY COUNTRY: ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE

Independent Variable	Canada	Australia	England	United States
Values: Economic	.23	.08	.56	.04
Values: Aesthetic	8.77	6.28	1.67	5.42
Part. in Phys. Act.: Aesthetic	4.09	5.78	5.82	5.62
Peer Part. in Phys. Act.: Aesthetic	1.84	4.10	4.71	3.49
Televised Phys. Act.: Aesthetic	8.53	3.89	8.55	4.86
Sports via Newspaper	.21	.29	.79	.38
Sports via Books and Magazines	.08	.79	.26	.23
Sports Clubs	.30	.50	.04	.55
Number of Siblings	.15	.78	1.00	.36
Birth Order	.11	2.17	.49	.71
Household Head: Education	.46	2.31	.18	.84
Household Head: Occupation	.49	.38	.07	.10
Religious Preference	2.11	*	1.07	1.07
Religious Attendance	1.89	*	2.07	.69
Sports Attendance in Summer	.98	*	.17	1.05
Sports Attendance in Winter	.89	*	.09	.21
Level	.84	.23	.01	.07
Sex	10.63	9.62	14.89	8.14
Body Esteem	2.64	3.90	1.61	.61
Need for Approval	4.53	2.25	.56	1.51
Self Esteem	.23	.46	.57	.60
Relation with Father	.29	*	.29	.22
Total	50.29	43.81	45.47	36.77

*Data on this variable is unavailable from the Australian sample.

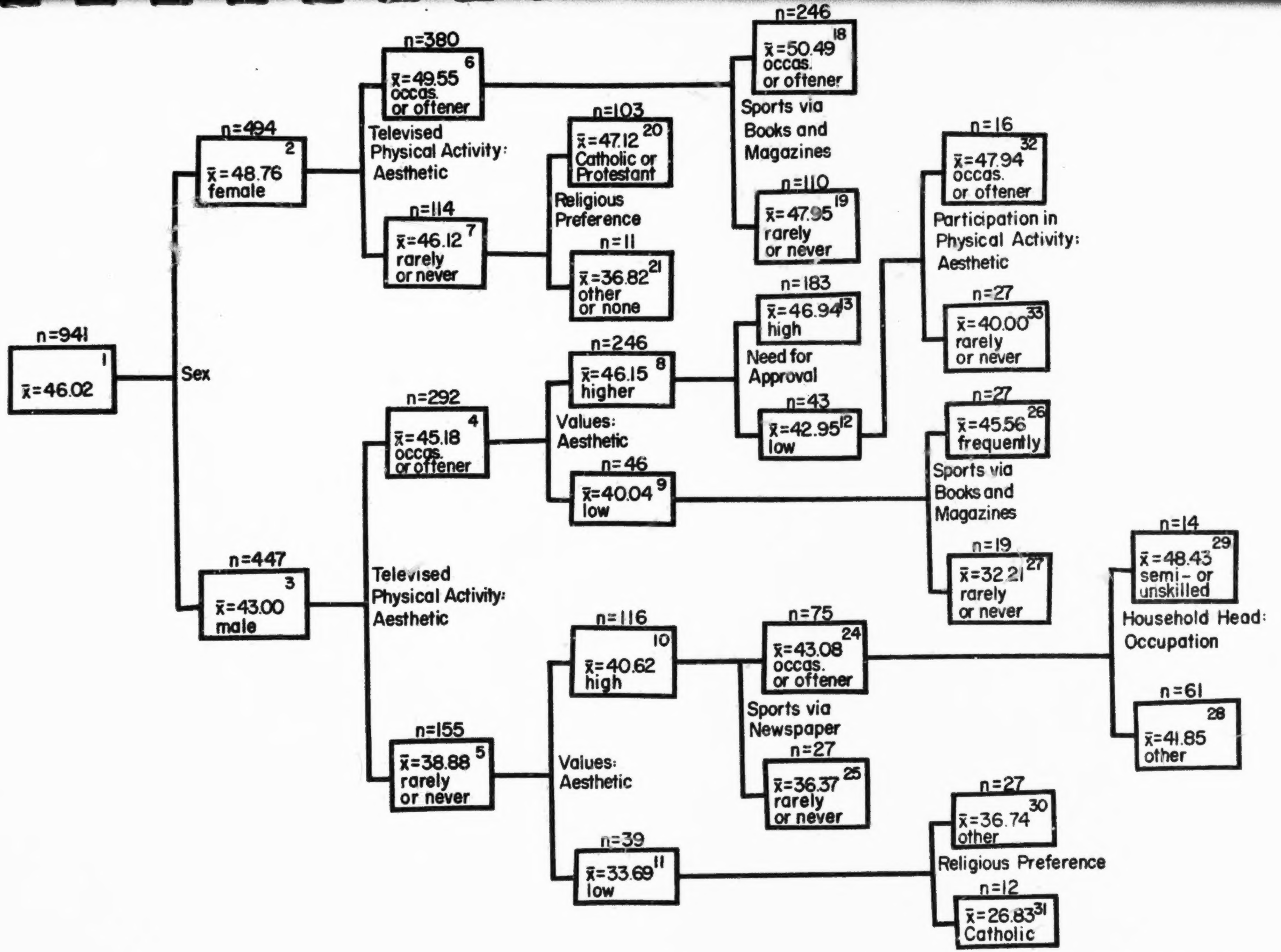
n=941
1
x̄=46.02
Sex
n=494
2
x̄=48.76
female
n=447
3
x̄=43.00
male
Televised
Physical Activity:
Aesthetic
n=380
6
x̄=49.55
occas.
or oftener
n=114
7
x̄=46.12
rarely
or never
n=292
4
x̄=45.18
occas.
or oftener
n=155
5
x̄=38.88
rarely
or never
Televised
Physical Activity:
Aesthetic
n=103
20
x̄=47.12
Catholic or
Protestant
Religious
Preference
n=11
21
x̄=36.82
other
or none
n=246
8
x̄=46.15
higher
Values:
Aesthetic
n=46
9
x̄=40.04
low
n=116
10
x̄=40.62
high
Values:
Aesthetic
n=39
11
x̄=33.69
low
n=246
18
x̄=50.49
occas.
or oftener
Sports via
Books and
Magazines
n=110
19
x̄=47.95
rarely
or never
n=183
13
x̄=46.94
high
Need for
Approval
n=43
12
x̄=42.95
low
n=75
24
x̄=43.08
occas.
or oftener
Sports via
Newspaper
n=27
25
x̄=36.37
rarely
or never
n=16
32
x̄=47.94
occas.
or oftener
Participation in
Physical Activity:
Aesthetic
n=27
33
x̄=40.00
rarely
or never
n=27
26
x̄=45.56
frequently
Sports via
Books and
Magazines
n=19
27
x̄=32.21
rarely
or never
n=27
30
x̄=36.74
other
Religious Preference
n=12
31
x̄=26.83
Catholic
n=14
29
x̄=48.43
semi- or
unskilled
Household Head:
Occupation
n=61
28
x̄=41.85
other

FIGURE 18. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE AMONG CANADIAN SECONDARY SCHOOL STUDENTS

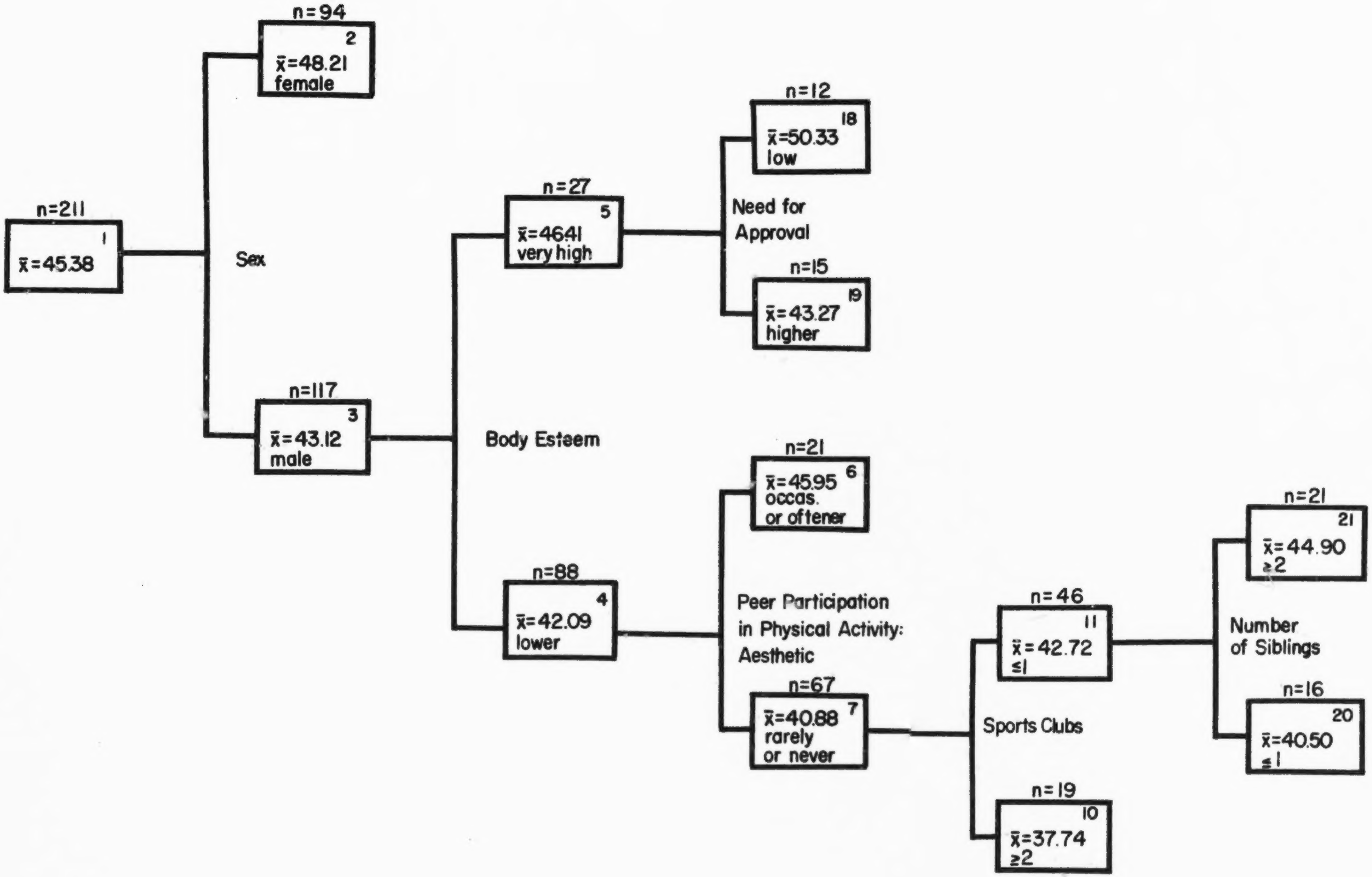
n=211
1
x̄=45.38
Sex
n=94
2
x̄=48.21
female
n=117
3
x̄=43.12
male
Body Esteem
n=27
5
x̄=46.41
very high
n=88
4
x̄=42.09
lower
Need for Approval
n=12
18
x̄=50.33
low
n=15
19
x̄=43.27
higher
Peer Participation in Physical Activity: Aesthetic
n=21
6
x̄=45.95
occas. or oftener
n=67
7
x̄=40.88
rarely or never
Sports Clubs
n=46
11
x̄=42.72
≤1
n=19
10
x̄=37.74
≥2
Number of Siblings
n=21
21
x̄=44.90
≥2
n=16
20
x̄=40.50
≤1

FIGURE 19. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE AMONG AUSTRALIAN SECONDARY SCHOOL STUDENTS

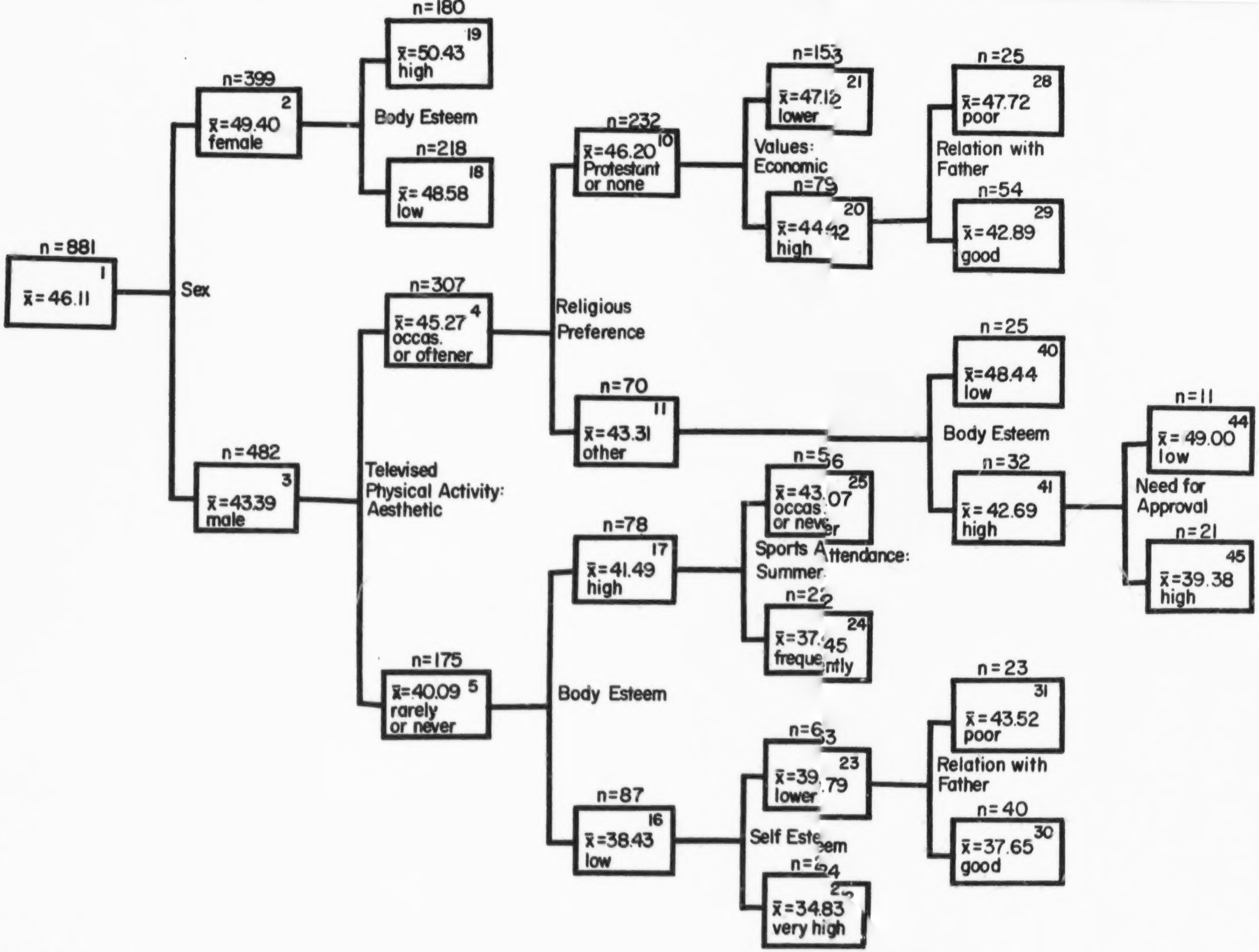
n=881
1
x̄=46.11
Sex
n=399
2
x̄=49.40
female
n=482
3
x̄=43.39
male
Body Esteem
n=180
19
x̄=50.43
high
n=218
18
x̄=48.58
low
Televised
Physical Activity:
Aesthetic
n=307
4
x̄=45.27
occas.
or oftener
n=175
5
x̄=40.09
rarely
or never
Religious
Preference
n=232
10
x̄=46.20
Protestant
or none
n=70
11
x̄=43.31
other
Body Esteem
n=78
17
x̄=41.49
high
n=87
16
x̄=38.43
low
Values:
Economic
n=153
21
x̄=47.12
lower
n=79
20
x̄=44.42
high
n=56
25
x̄=43.07
occas.
or never
Sports Attendance:
Summer
n=22
24
x̄=37.45
frequently
n=63
23
x̄=39.79
lower
Self Esteem
n=24
22
x̄=34.83
very high
Relation with
Father
n=25
28
x̄=47.72
poor
n=54
29
x̄=42.89
good
Body Esteem
n=25
40
x̄=48.44
low
n=32
41
x̄=42.69
high
Relation with
Father
n=23
31
x̄=43.52
poor
n=40
30
x̄=37.65
good
Need for
Approval
n=11
44
x̄=49.00
low
n=21
45
x̄=39.38
high

FIGURE 20. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE AMONG ENGLISH SECONDARY SCHOOL STUDENTS

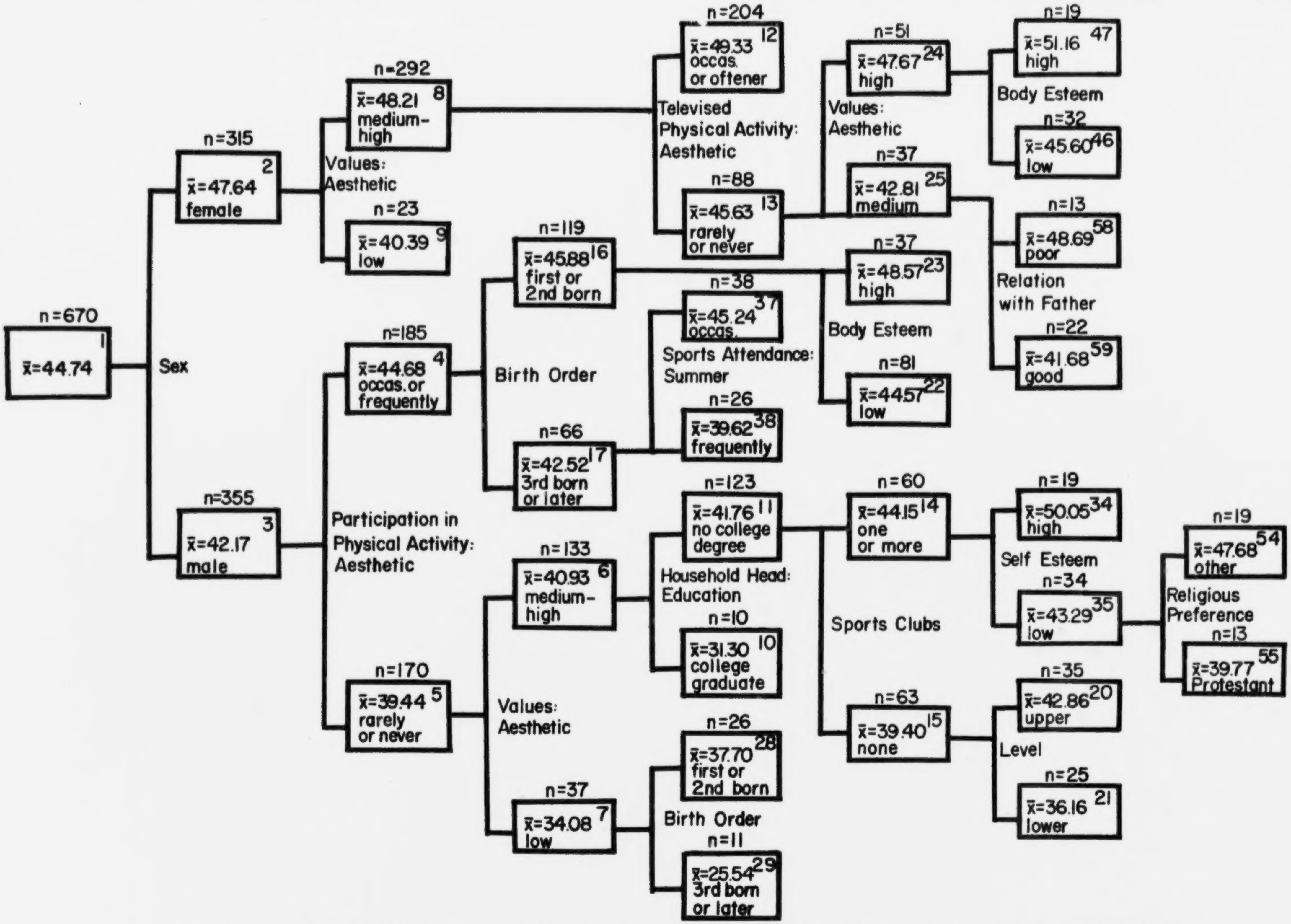
n=670
x̄=44.74 1
Sex
n=315
x̄=47.64 female 2
n=355
x̄=42.17 male 3
Values: Aesthetic
n=292
x̄=48.21 medium-high 8
n=23
x̄=40.39 low 9
Participation in Physical Activity: Aesthetic
n=185
x̄=44.68 occas. or frequently 4
n=170
x̄=39.44 rarely or never 5
Televised Physical Activity: Aesthetic
n=204
x̄=49.33 occas. or oftener 12
n=88
x̄=45.63 rarely or never 13
Values: Aesthetic
n=51
x̄=47.67 high 24
n=37
x̄=42.81 medium 25
Body Esteem
n=19
x̄=51.16 high 47
n=32
x̄=45.60 low 46
Relation with Father
n=13
x̄=48.69 poor 58
n=22
x̄=41.68 good 59
Birth Order
n=119
x̄=45.88 first or 2nd born 16
n=66
x̄=42.52 3rd born or later 17
Body Esteem
n=37
x̄=48.57 high 23
n=81
x̄=44.57 low 22
Sports Attendance: Summer
n=38
x̄=45.24 occas. 37
n=26
x̄=39.62 frequently 38
Values: Aesthetic
n=133
x̄=40.93 medium-high 6
n=37
x̄=34.08 low 7
Household Head: Education
n=123
x̄=41.76 no college degree 11
n=10
x̄=31.30 college graduate 10
Sports Clubs
n=60
x̄=44.15 one or more 14
n=63
x̄=39.40 none 15
Self Esteem
n=19
x̄=50.05 high 34
n=34
x̄=43.29 low 35
Religious Preference
n=19
x̄=47.68 other 54
n=13
x̄=39.77 Protestant 55
Level
n=35
x̄=42.86 upper 20
n=25
x̄=36.16 lower 21
Birth Order
n=26
x̄=37.70 first or 2nd born 28
n=11
x̄=25.54 3rd born or later 29

FIGURE 21. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN AESTHETIC EXPERIENCE AMONG U.S. SECONDARY SCHOOL STUDENTS

Correlates of Attitude Toward Cathartic Physical Activity

As seen in Table Fifty-seven, only a small amount of the variance has been accounted for by the various hypothesized correlates of attitude toward physical activity as catharsis. Thus the reader needs to be cautious in making his interpretations. Nevertheless a degree of cross-national consistancy was observed in the variables that were significant in discriminating between high and low groups. Among the more important variables were primary involvement in cathartic activities, body-esteem, self-esteem, religious preference, relationship with father, and need for approval. However, there are some national differences with regard to the role of self-esteem. For example, in the United States sample, high self-esteem seems to be associated with high positive attitude toward cathartic physical activity, while in the Canadian sample high self-esteem seems to be associated with a less positive attitude.

Upon examining Figures Twenty-two, Twenty-three, Twenty-four and Twenty-five, a number of extreme groups can be seen. For example, group twenty-five of the Canadian sample (n=15) has the following characteristics: Catholic, poor relationship with father, rare, if ever, attendance at sporting events, and occasional or no participation in cathartic physical activity. With a mean of 32.20, this group obviously represents those who have a neutral or somewhat negative attitude toward physical activity as catharsis. On the other hand, drawing from the United States sample, group forty-one (n=83), a "high" group, is high in body-esteem, comes from a family with three or fewer siblings, is high in self-esteem and participates frequently in physical activity of a cathartic nature. Another "high" group,

TABLE 57 - PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES, SEPARATELY BY COUNTRY: ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS

Independent Variable	Canada	Australia	England	United States
Values: Economic	.14	.31	.08	.08
Values: Social	1.19	.70	1.01	.08
Part. in Phys. Act.: Catharsis	4.04	.74	2.86	3.59
Peer Part. in Phys. Act.: Catharsis	1.93	.26	1.74	1.29
TV Phys. Act.: Coll. & Prof. Sport	.95	.62	1.22	.67
Sports via Newspaper	1.31	.26	.42	.96
Sports via Books and Magazines	.76	.54	.45	.69
Sports Clubs	1.77	.14	.05	.87
Number of Siblings	.17	1.98	1.41	.26
Birth Order	.15	.47	.11	.14
Household Head: Education	.21	.26	.86	1.35
Household Head: Occupation	.19	1.61	.97	.39
Religious Preference	1.32	*	.33	.74
Religious Attendance	.13	*	.07	.11
Sports Attendance in Summer	2.25	*	.95	.04
Sports Attendance in Winter	1.87	*	.89	.58
Level	.08	1.54	.22	.38
Sex	.68	1.30	.01	.00
Body Esteem	1.83	1.84	1.16	1.17
Need for Approval	.72	2.98	.30	1.01
Self Esteem	.16	1.26	.78	.68
Relation with Father	.77	*	.69	.02
Total	22.62	16.81	16.58	15.10

*Data on this variable is unavailable from the Australian sample.

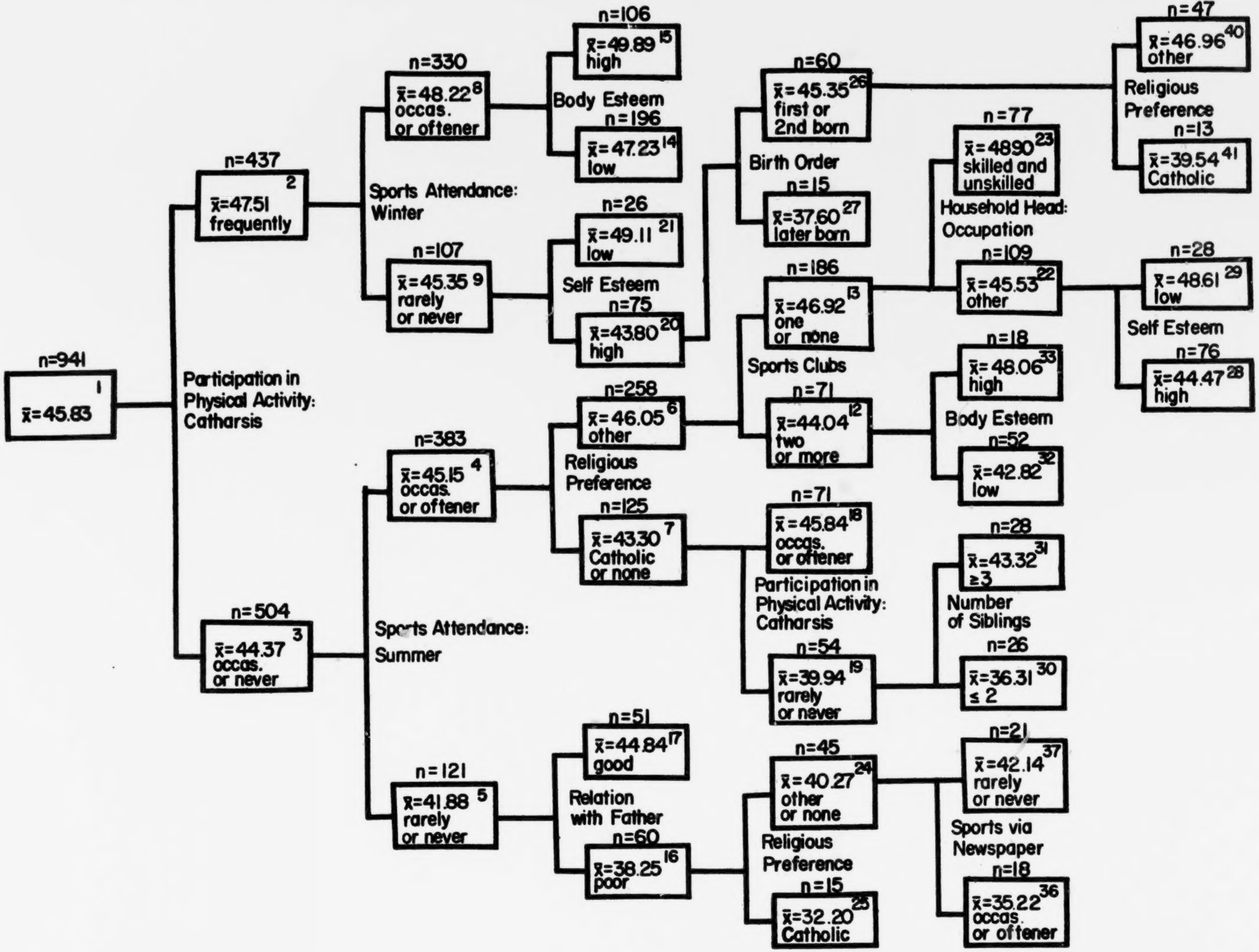
n=941
x̄=45.83 1
Participation in Physical Activity: Catharsis
n=437
x̄=47.51 frequently 2
n=504
x̄=44.37 occas. or never 3
Sports Attendance: Winter
n=330
x̄=48.22 occas. or oftener 8
n=107
x̄=45.35 rarely or never 9
Sports Attendance: Summer
n=383
x̄=45.15 occas. or oftener 4
n=121
x̄=41.88 rarely or never 5
Body Esteem
n=106
x̄=49.89 high 15
n=196
x̄=47.23 low 14
Self Esteem
n=26
x̄=49.11 low 21
n=75
x̄=43.80 high 20
Religious Preference
n=258
x̄=46.05 other 6
n=125
x̄=43.30 Catholic or none 7
Relation with Father
n=51
x̄=44.84 good 17
n=60
x̄=38.25 poor 16
Birth Order
n=60
x̄=45.35 first or 2nd born 26
n=15
x̄=37.60 later born 27
Sports Clubs
n=186
x̄=46.92 one or none 13
n=71
x̄=44.04 two or more 12
Participation in Physical Activity: Catharsis
n=71
x̄=45.84 occas. or oftener 18
n=54
x̄=39.94 rarely or never 19
Religious Preference
n=45
x̄=40.27 other or none 24
n=15
x̄=32.20 Catholic 25
Household Head: Occupation
n=77
x̄=4890 skilled and unskilled 23
n=109
x̄=45.53 other 22
Body Esteem
n=18
x̄=48.06 high 33
n=52
x̄=42.82 low 32
Number of Siblings
n=28
x̄=43.32 ≥3 31
n=26
x̄=36.31 ≤ 2 30
Sports via Newspaper
n=21
x̄=42.14 rarely or never 37
n=18
x̄=35.22 occas. or oftener 36
Religious Preference
n=47
x̄=46.96 other 40
n=13
x̄=39.54 Catholic 41
Self Esteem
n=28
x̄=48.61 low 29
n=76
x̄=44.47 high 28

FIGURE 22. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS AMONG CANADIAN SECONDARY SCHOOL STUDENTS

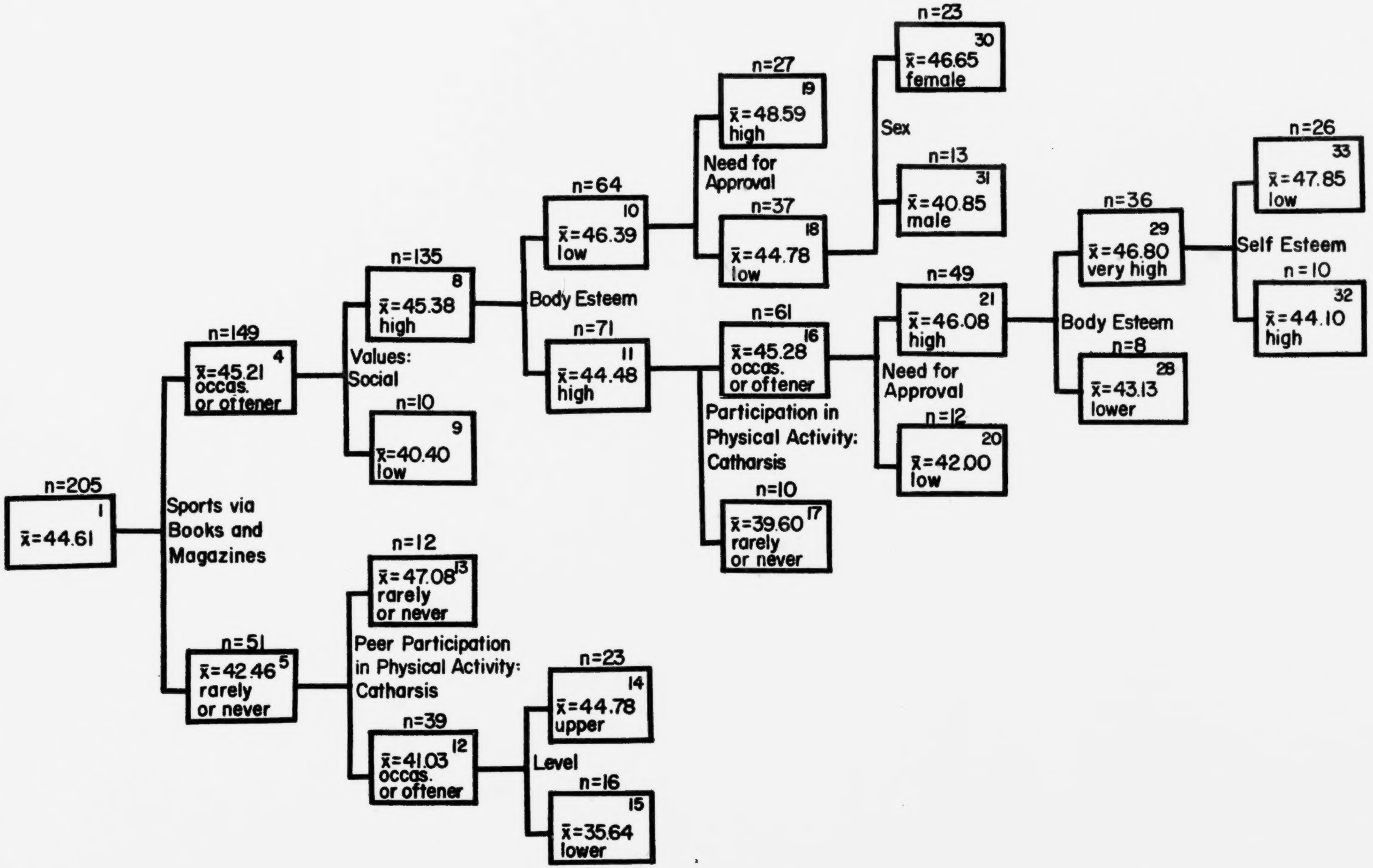
n=205
1
x̄=44.61
Sports via Books and Magazines
n=149
4
x̄=45.21
occas. or oftener
n=51
5
x̄=42.46
rarely or never
Values: Social
n=135
8
x̄=45.38
high
n=10
9
x̄=40.40
low
Peer Participation in Physical Activity: Catharsis
n=12
13
x̄=47.08
rarely or never
n=39
12
x̄=41.03
occas. or oftener
Level
n=23
14
x̄=44.78
upper
n=16
15
x̄=35.64
lower
Body Esteem
n=64
10
x̄=46.39
low
n=71
11
x̄=44.48
high
Need for Approval
n=27
19
x̄=48.59
high
n=37
18
x̄=44.78
low
Sex
n=23
30
x̄=46.65
female
n=13
31
x̄=40.85
male
Participation in Physical Activity: Catharsis
n=61
16
x̄=45.28
occas. or oftener
n=10
17
x̄=39.60
rarely or never
Need for Approval
n=49
21
x̄=46.08
high
n=12
20
x̄=42.00
low
Body Esteem
n=36
29
x̄=46.80
very high
n=8
28
x̄=43.13
lower
Self Esteem
n=26
33
x̄=47.85
low
n=10
32
x̄=44.10
high

FIGURE 23. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS AMONG AUSTRALIAN SECONDARY SCHOOL STUDENTS

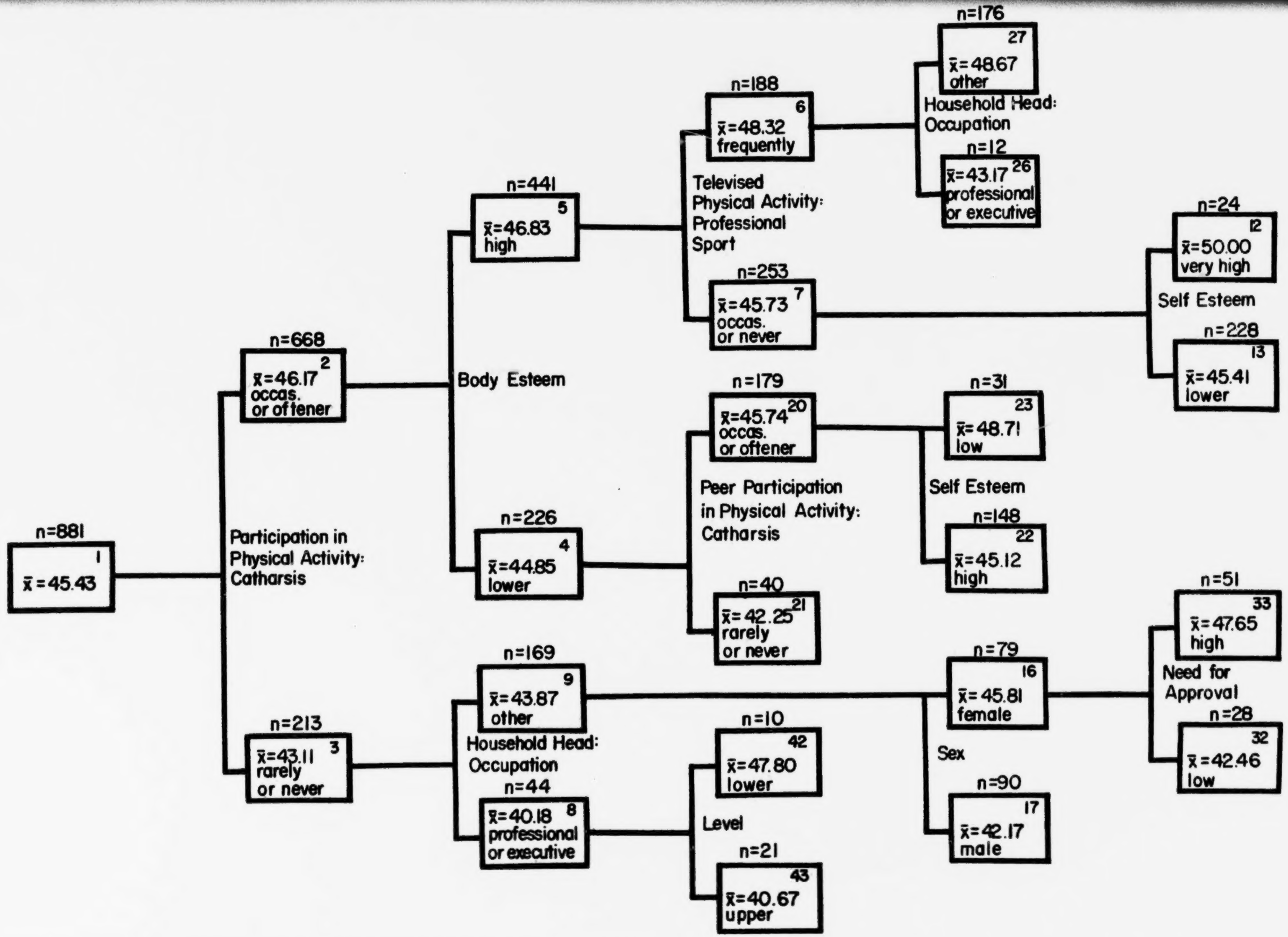
n=881
1
x̄ = 45.43
Participation in
Physical Activity:
Catharsis
n=668
2
x̄=46.17
occas.
or oftener
n=213
3
x̄=43.11
rarely
or never
Body Esteem
n=441
5
x̄=46.83
high
n=226
4
x̄=44.85
lower
Household Head:
Occupation
n=169
9
x̄=43.87
other
n=44
8
x̄=40.18
professional
or executive
Televised
Physical Activity:
Professional
Sport
n=188
6
x̄=48.32
frequently
n=253
7
x̄=45.73
occas.
or never
Peer Participation
in Physical Activity:
Catharsis
n=179
20
x̄=45.74
occas.
or oftener
n=40
21
x̄=42.25
rarely
or never
Level
n=10
42
x̄=47.80
lower
n=21
43
x̄=40.67
upper
Household Head:
Occupation
n=176
27
x̄=48.67
other
n=12
26
x̄=43.17
professional
or executive
Self Esteem
n=24
12
x̄=50.00
very high
n=228
13
x̄=45.41
lower
Self Esteem
n=31
23
x̄=48.71
low
n=148
22
x̄=45.12
high
Sex
n=79
16
x̄=45.81
female
n=90
17
x̄=42.17
male
Need for
Approval
n=51
33
x̄=47.65
high
n=28
32
x̄=42.46
low

FIGURE 24. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS AMONG ENGLISH SECONDARY SCHOOL STUDENTS

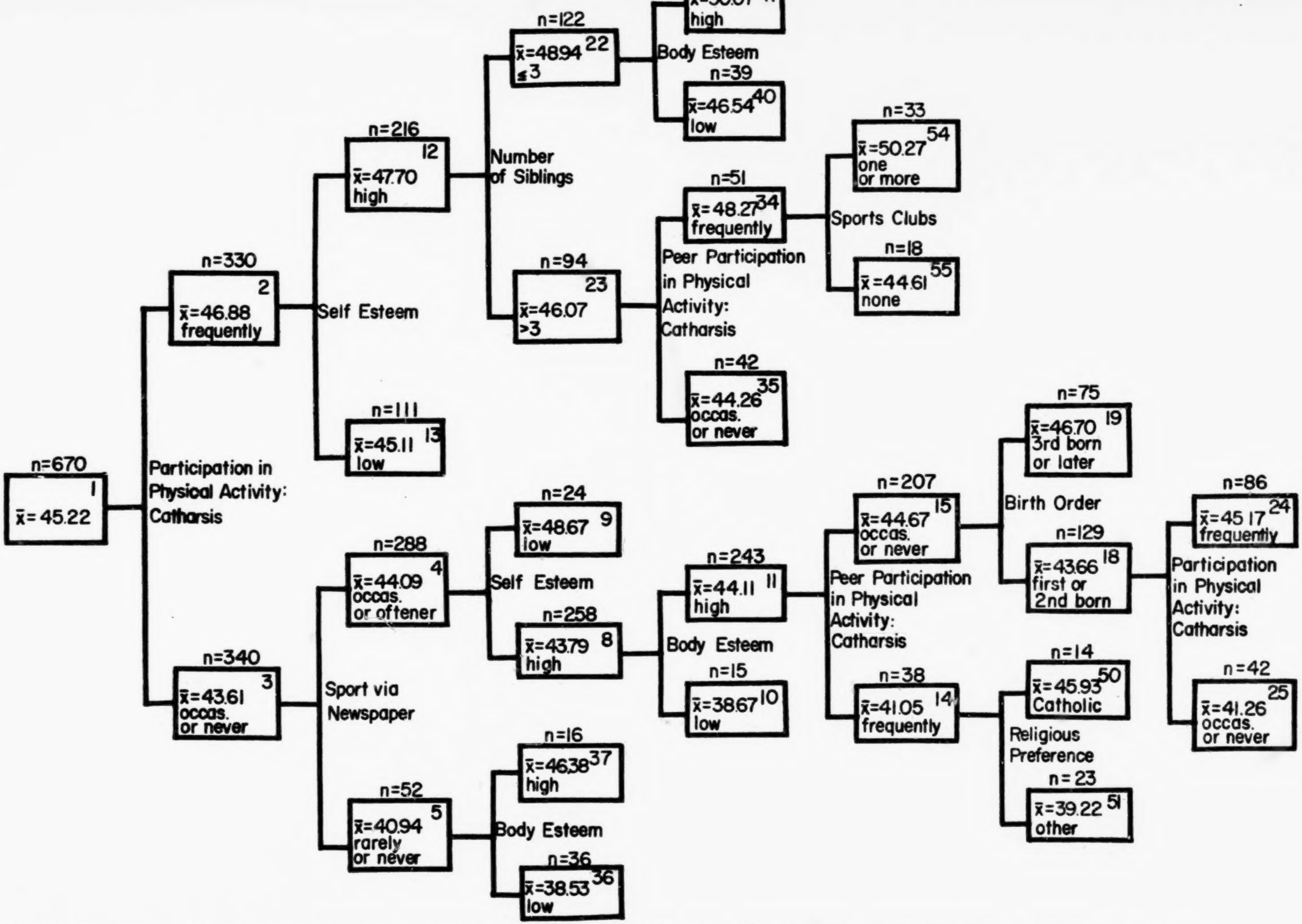
n=670
1
x̄= 45.22
Participation in Physical Activity: Catharsis
n=330
2
x̄=46.88 frequently
n=340
3
x̄=43.61 occas. or never
Self Esteem
n=216
12
x̄=47.70 high
n=111
13
x̄=45.11 low
Number of Siblings
n=122
22
x̄=48.94 ≤3
n=94
23
x̄=46.07 >3
Body Esteem
high
n=39
40
x̄=46.54 low
Peer Participation in Physical Activity: Catharsis
n=51
34
x̄=48.27 frequently
n=42
35
x̄=44.26 occas. or never
Sports Clubs
n=33
54
x̄=50.27 one or more
n=18
55
x̄=44.61 none
Sport via Newspaper
n=288
4
x̄=44.09 occas. or oftener
n=52
5
x̄=40.94 rarely or never
Self Esteem
n=24
9
x̄=48.67 low
n=258
8
x̄=43.79 high
Body Esteem
n=16
37
x̄=46.38 high
n=36
36
x̄=38.53 low
Body Esteem
n=243
11
x̄=44.11 high
n=15
10
x̄=38.67 low
Peer Participation in Physical Activity: Catharsis
n=207
15
x̄=44.67 occas. or never
n=38
14
x̄=41.05 frequently
Birth Order
n=75
19
x̄=46.70 3rd born or later
n=129
18
x̄=43.66 first or 2nd born
Religious Preference
n=14
50
x̄=45.93 Catholic
n=23
51
x̄=39.22 other
Participation in Physical Activity: Catharsis
n=86
24
x̄=45.17 frequently
n=42
25
x̄=41.26 occas. or never

FIGURE 25 FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CATHARSIS AMONG U.S. SECONDARY SCHOOL STUDENTS

this time from the Australian sample (Figure Twenty-three), is group thirty-three (n = 26) who are low in self-esteem, very high in body-esteem, high in need for approval, participate occasionally or oftener in physical activity of a cathartic nature, high in general social values, and read about sport and physical activity in books and magazines occasionally or oftener.

Although a number of other results can be gleaned from the accompanying figures the reader is again reminded that in view of the small amount of explained variance considerable caution is in order. Either the concept of physical activity as a cathartic experience is not a sufficiently unitary one, (Kenyon, 1968c) or its explanations calls for variables other than those chosen for this study.

Correlates of Attitude Toward Ascetic Activity

As shown in Table fifty-eight, from 22.77 to 43.37 percent of the variance (Australia and United States samples, respectively) associated with the attitude toward physical activity as an ascetic experience was accounted for by the several independent variables chosen for this analysis. Some of the more important variables include primary involvement in ascetic activity, peer primary involvement, consumption of sport via the press, membership in clubs sponsoring sports, body-esteem, need for approval and in some instances, social class background. Considerable agreement exists across the four countries sampled.

By examining Figures Twenty-six, Twenty-seven, Twenty-eight and Twenty-nine, some extreme "high" and "low" groups are readily discovered. For example, group twenty-nine (n = 21) of the Australian sample represents the "high" extreme with the following characteristics: high need

TABLE 58.- PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES, SEPARATELY BY COUNTRY: ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE

Independent Variable	Canada	Australia	England	United States
Values: Social	.88	.99	.70	.56
Values: Political	1.01	1.50	.12	.56
Values: Religious	.49	1.88	.94	.23
Participation in Phys. Act.: Ascetic	6.21	1.96	5.26	11.55
Peer Part. in Phys. Act.: Ascetic	1.78	.41	1.42	5.24
TV Phys. Act.: Coll. & Prof. Sport	2.59	1.26	.41	3.27
Sports via Newspaper	3.65	1.68	1.40	4.01
Sports via Books and Magazines	2.70	2.35	3.22	4.33
Sports Clubs	.81	3.13	4.08	1.57
Number of Siblings	.10	.08	1.19	.57
Birth Order	.47	2.19	.40	.48
Household Head: Education	.06	.39	.39	.86
Household Head: Occupation	.37	1.32	.47	.26
Religious Preference	.37	*	.49	.35
Religious Attendance	.29	*	.54	.15
Sports Attendance in Summer	.88	*	3.07	.40
Sports Attendance in Winter	2.24	*	3.80	1.78
Level	1.69	.04	.08	.34
Sex	.65	.06	.10	1.93
Body Esteem	2.13	1.91	3.50	2.60
Need for Approval	2.98	.87	1.62	1.22
Self Esteem	.54	.75	.32	.55
Relation with Father	.26	*	.09	.55
Total	33.15	22.77	33.61	43.37

*Data on this variable is unavailable from the Australian sample.

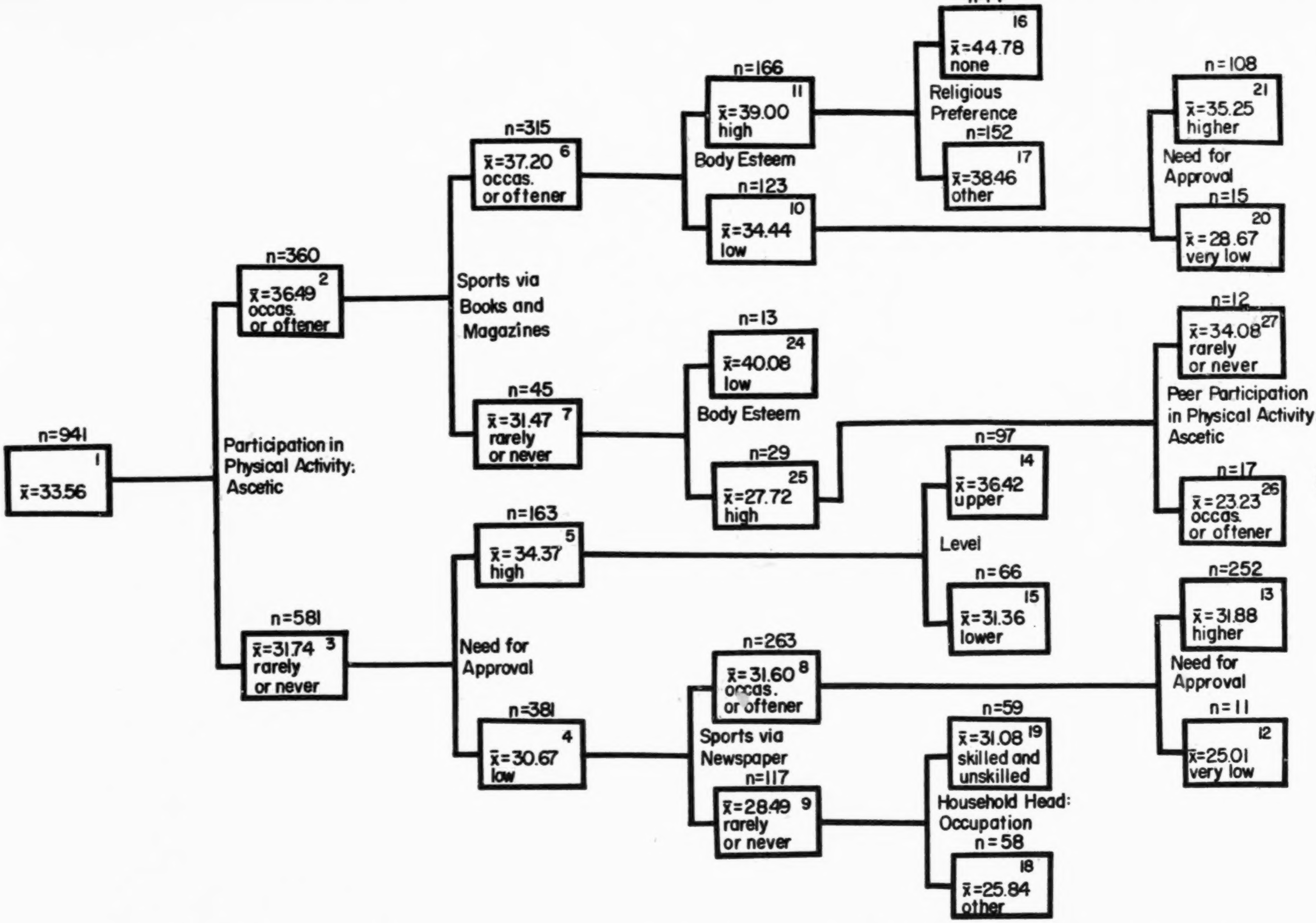
n=941
1
x̄=33.56
Participation in Physical Activity: Ascetic
n=360
2
x̄=36.49 occas. or oftener
n=581
3
x̄=31.74 rarely or never
Sports via Books and Magazines
n=315
6
x̄=37.20 occas. or oftener
n=45
7
x̄=31.47 rarely or never
Need for Approval
n=163
5
x̄=34.37 high
n=381
4
x̄=30.67 low
Body Esteem
n=166
11
x̄=39.00 high
n=123
10
x̄=34.44 low
Body Esteem
n=13
24
x̄=40.08 low
n=29
25
x̄=27.72 high
Sports via Newspaper
n=263
8
x̄=31.60 occas. or oftener
n=117
9
x̄=28.49 rarely or never
Religious Preference
16
x̄=44.78 none
n=152
17
x̄=38.46 other
Level
n=97
14
x̄=36.42 upper
n=66
15
x̄=31.36 lower
Household Head: Occupation
n=59
19
x̄=31.08 skilled and unskilled
n=58
18
x̄=25.84 other
Need for Approval
n=108
21
x̄=35.25 higher
n=15
20
x̄=28.67 very low
Peer Participation in Physical Activity: Ascetic
n=12
27
x̄=34.08 rarely or never
n=17
26
x̄=23.23 occas. or oftener
Need for Approval
n=252
13
x̄=31.88 higher
n=11
12
x̄=25.01 very low

FIGURE 26. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE AMONG CANADIAN SECONDARY SCHOOL STUDENTS

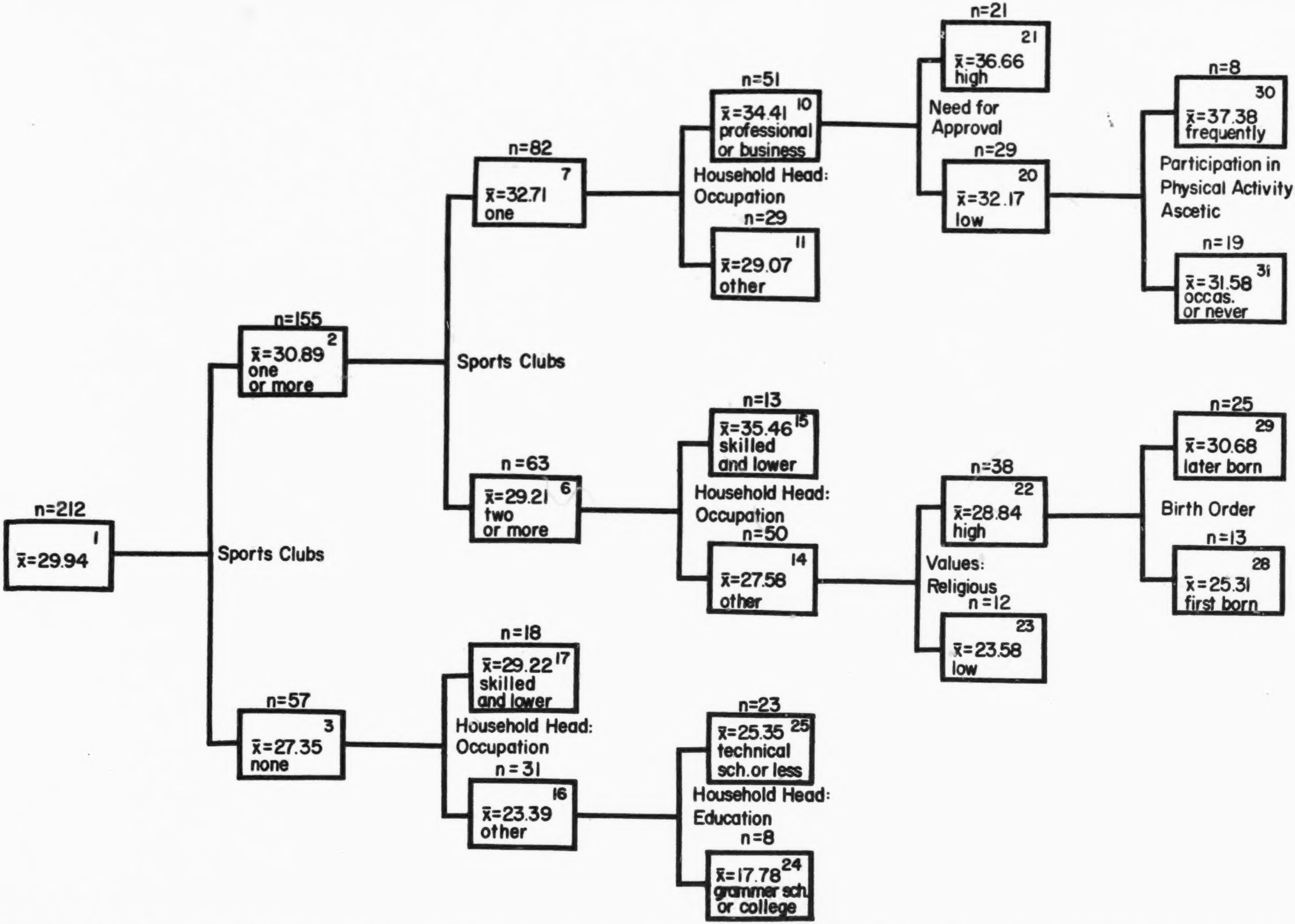
n=212
1
x̄=29.94
Sports Clubs
n=155
2
x̄=30.89
one
or more
n=57
3
x̄=27.35
none
Sports Clubs
n=82
7
x̄=32.71
one
n=63
6
x̄=29.21
two
or more
Household Head:
Occupation
n=18
17
x̄=29.22
skilled
and lower
n = 31
16
x̄=23.39
other
Household Head:
Occupation
n=51
10
x̄=34.41
professional
or business
n=29
11
x̄=29.07
other
Household Head:
Occupation
n=13
15
x̄=35.46
skilled
and lower
n=50
14
x̄=27.58
other
Household Head:
Education
n=23
25
x̄=25.35
technical
sch.or less
n=8
24
x̄=17.78
grammer sch.
or college
Need for
Approval
n=21
21
x̄=36.66
high
n=29
20
x̄=32.17
low
Values:
Religious
n=38
22
x̄=28.84
high
n=12
23
x̄=23.58
low
Participation in
Physical Activity:
Ascetic
n=8
30
x̄=37.38
frequently
n=19
31
x̄=31.58
occas.
or never
Birth Order
n=25
29
x̄=30.68
later born
n=13
28
x̄=25.31
first born

FIGURE 27. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE AMONG AUSTRALIAN SECONDARY SCHOOL STUDENTS

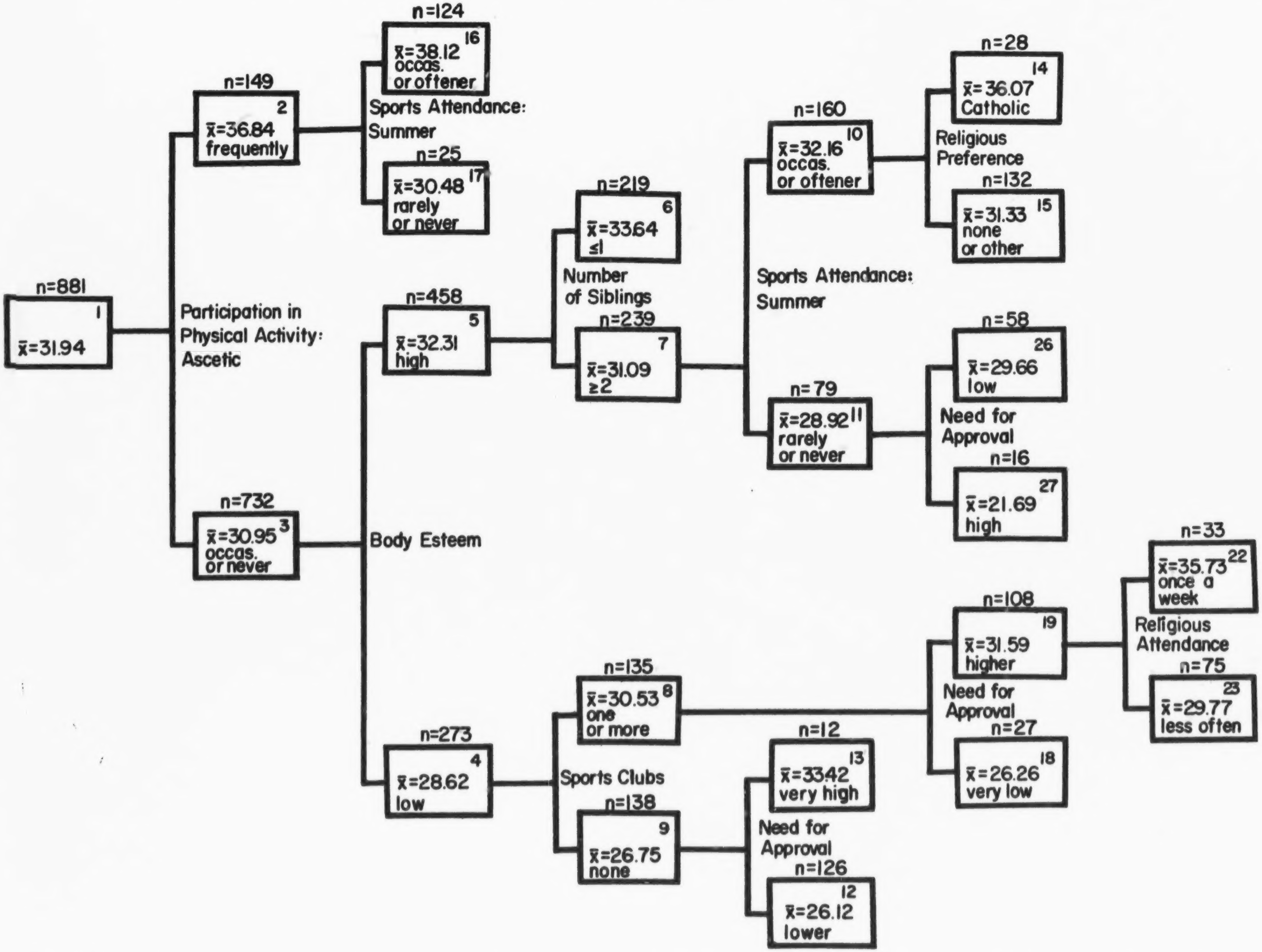
n=881
x̄=31.94
1
Participation in Physical Activity: Ascetic
n=149
x̄=36.84
frequently
2
n=732
x̄=30.95
occas. or never
3
Sports Attendance: Summer
n=124
x̄=38.12
occas. or oftener
16
n=25
x̄=30.48
rarely or never
17
Body Esteem
n=458
x̄=32.31
high
5
n=273
x̄=28.62
low
4
Number of Siblings
n=219
x̄=33.64
≤1
6
n=239
x̄=31.09
≥2
7
Sports Clubs
n=135
x̄=30.53
one or more
8
n=138
x̄=26.75
none
9
Sports Attendance: Summer
n=160
x̄=32.16
occas. or oftener
10
n=79
x̄=28.92
rarely or never
11
Need for Approval
n=12
x̄=33.42
very high
13
n=126
x̄=26.12
lower
12
Religious Preference
n=28
x̄=36.07
Catholic
14
n=132
x̄=31.33
none or other
15
Need for Approval
n=58
x̄=29.66
low
26
n=16
x̄=21.69
high
27
Need for Approval
n=108
x̄=31.59
higher
19
n=27
x̄=26.26
very low
18
Religious Attendance
n=33
x̄=35.73
once a week
22
n=75
x̄=29.77
less often
23

FIGURE 28. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE AMONG ENGLISH SECONDARY SCHOOL STUDENTS

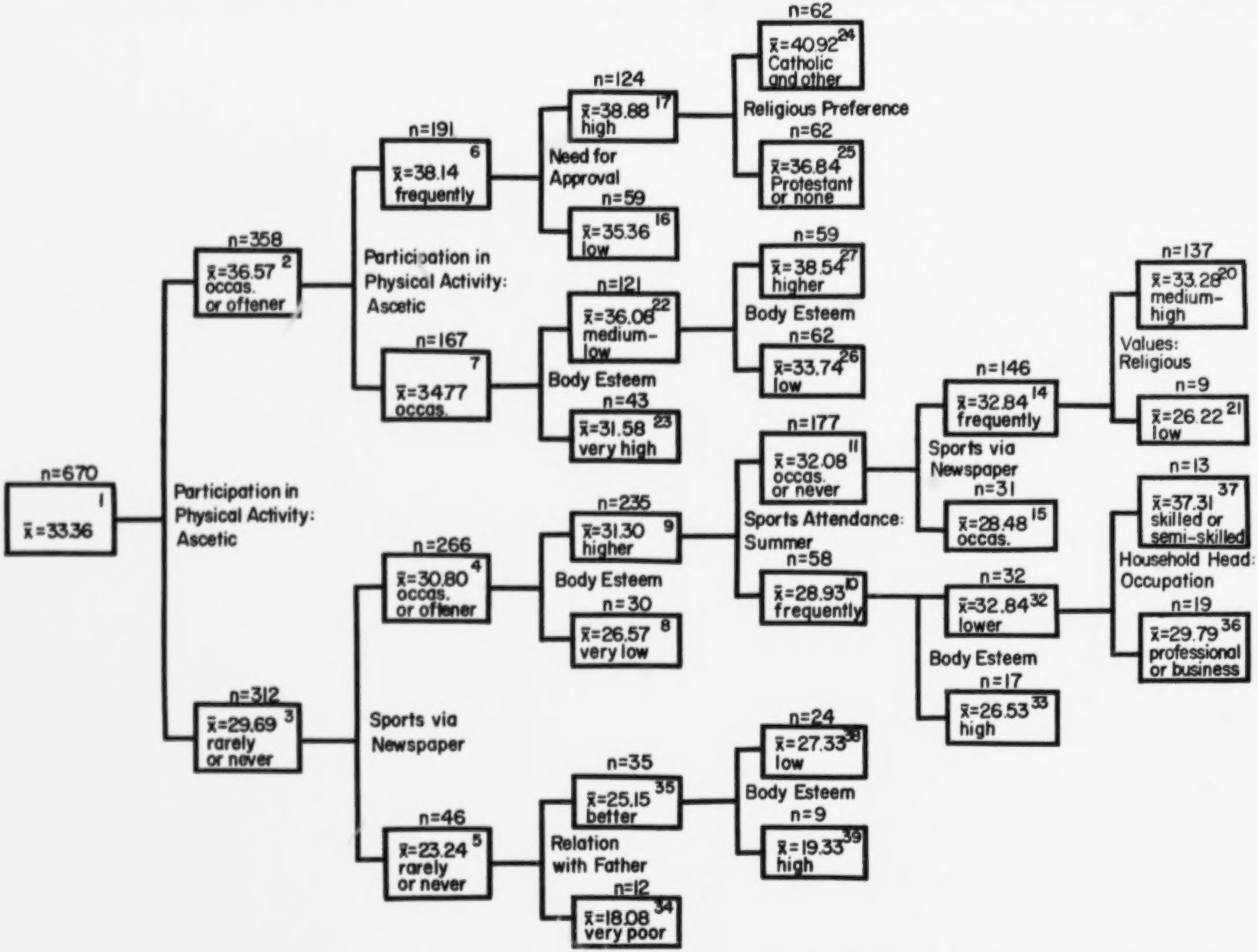
n=670
x̄=33.36 1
Participation in Physical Activity: Ascetic
n=358
x̄=36.57 2 occas. or oftener
n=312
x̄=29.69 3 rarely or never
Participation in Physical Activity: Ascetic
n=191
x̄=38.14 6 frequently
n=167
x̄=34.77 7 occas.
Sports via Newspaper
n=266
x̄=30.80 4 occas. or oftener
n=46
x̄=23.24 5 rarely or never
Need for Approval
n=124
x̄=38.88 17 high
n=59
x̄=35.36 16 low
Body Esteem
n=121
x̄=36.08 22 medium-low
n=43
x̄=31.58 23 very high
Body Esteem
n=235
x̄=31.30 9 higher
n=30
x̄=26.57 8 very low
Relation with Father
n=35
x̄=25.15 35 better
n=12
x̄=18.08 34 very poor
Religious Preference
n=62
x̄=40.92 24 Catholic and other
n=62
x̄=36.84 25 Protestant or none
Body Esteem
n=59
x̄=38.54 27 higher
n=62
x̄=33.74 26 low
Sports Attendance: Summer
n=177
x̄=32.08 11 occas. or never
n=58
x̄=28.93 10 frequently
Body Esteem
n=24
x̄=27.33 38 low
n=9
x̄=19.33 39 high
Sports via Newspaper
n=146
x̄=32.84 14 frequently
n=31
x̄=28.48 15 occas.
Body Esteem
n=32
x̄=32.84 32 lower
n=17
x̄=26.53 33 high
Values: Religious
n=137
x̄=33.28 20 medium-high
n=9
x̄=26.22 21 low
Household Head: Occupation
n=13
x̄=37.31 37 skilled or semi-skilled
n=19
x̄=29.79 36 professional or business

FIGURE 29. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS AN ASCETIC EXPERIENCE AMONG U.S. SECONDARY SCHOOL STUDENTS

for approval, upper or upper middle class background and membership in a single sport club. Another "high" group is number sixteen (n = 14), from the Canadian sample. This group is characterized by having no religious preference, high body-esteem, occasional or oftener consumption of sport via books and magazines and occasional or oftener participation in ascetic physical activity. Group twelve (n = 126) from the English sample, represents a "low" group. Members can be characterized by having a relatively low need for approval, no membership in clubs sponsoring sport, low body-esteem and occasional or no participation in physical activity as an ascetic experience. Drawing from the Canadian data, group eighteen (n = 58), as a "low" group, is characterized by a middle or upper class background, little if any consumption of sport via the newspaper, a low need for approval and little if any participation in physical activity as an ascetic experience. Again further results are best obtained by examining the accompanying figures.

Correlates of Attitude Toward Physical Activity as Chance

As seen by examining Table Fifty-nine, a relatively small amount of variance in attitude toward physical activity perceived as chance has been accounted for. By far the most important contributor was participation in physical activity of a chance nature, followed immediately by peer participation in the same form of activity. To a lesser extent and varying among countries, other significant correlates were religious attendance, body-esteem and family size.

Upon examing Figures Thirty, Thirty-one, Thirty-two and Thirty-three, clearcut extreme examples are not readily available. However, group eight (n = 70) from the Canadian data, as a "high" group can be characterized

TABLE 59.- PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES, SEPARATELY BY COUNTRY: ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE

Independent Variable	Canada	Australia	England	United States
Participation in Phys. Act.: Chance	10.88	10.71	13.74	16.84
Peer Part. in Phys. Act.: Chance	5.12	7.95	6.11	9.28
Sports via Newspaper	.02	1.00	.29	.23
Sports via Books and Magazines	.50	1.00	.24	.53
Sports Clubs	.52	.98	.55	.51
Number of Siblings	.21	1.67	1.94	.29
Birth Order	.71	2.13	.48	.33
Household Head: Education	.15	1.85	.25	.61
Household Head: Occupation	.15	.08	1.01	1.35
Religious Preference	.86	*	.30	.64
Religious Attendance	2.04	*	.62	.42
Sports Attendance in Summer	.31	*	.41	1.20
Sports Attendance in Winter	.40	*	.07	.57
Level	.26	.15	2.06	.10
Sex	.00	1.51	.71	.05
Body Esteem	.21	2.28	.47	.93
Need for Approval	.80	1.42	.46	.36
Self Esteem	.35	.68	.98	.89
Relation with Father	.47	*	.20	.23
Total	23.96	33.41	30.89	35.36

*Data for this variable is unavailable from the Australian sample.

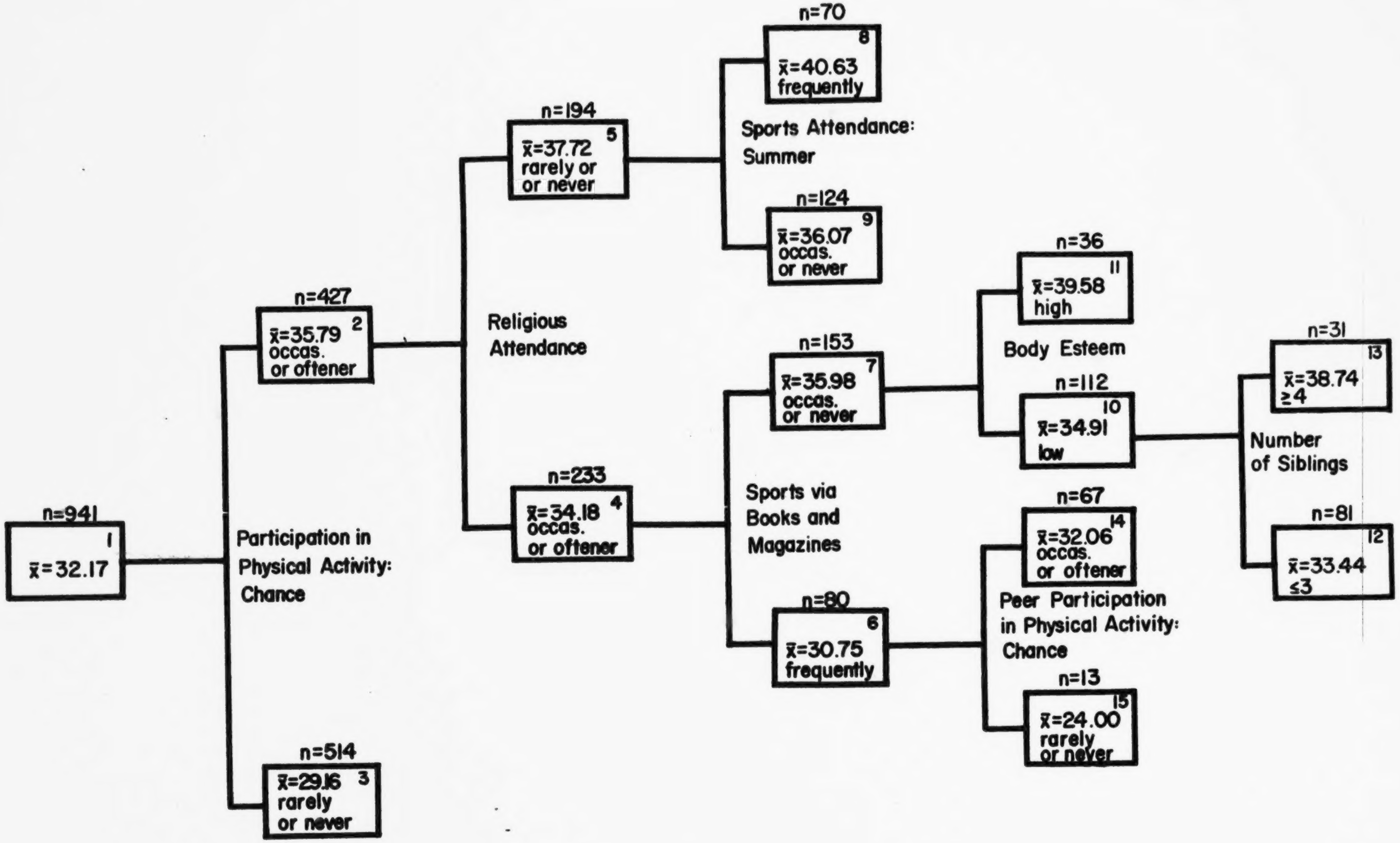
n=941
1
x̄=32.17
Participation in
Physical Activity:
Chance
n=427
x̄=35.79
occas.
or oftener
2
n=514
x̄=29.16
rarely
or never
3
Religious
Attendance
n=194
x̄=37.72
rarely or
or never
5
n=233
x̄=34.18
occas.
or oftener
4
Sports Attendance:
Summer
n=70
x̄=40.63
frequently
8
n=124
x̄=36.07
occas.
or never
9
Sports via
Books and
Magazines
n=153
x̄=35.98
occas.
or never
7
n=80
x̄=30.75
frequently
6
Body Esteem
n=36
x̄=39.58
high
11
n=112
x̄=34.91
low
10
Peer Participation
in Physical Activity:
Chance
n=67
x̄=32.06
occas.
or oftener
14
n=13
x̄=24.00
rarely
or never
15
Number
of Siblings
n=31
x̄=38.74
≥4
13
n=81
x̄=33.44
≤3
12

FIGURE 30. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE AMONG CANADIAN SECONDARY SCHOOL STUDENTS

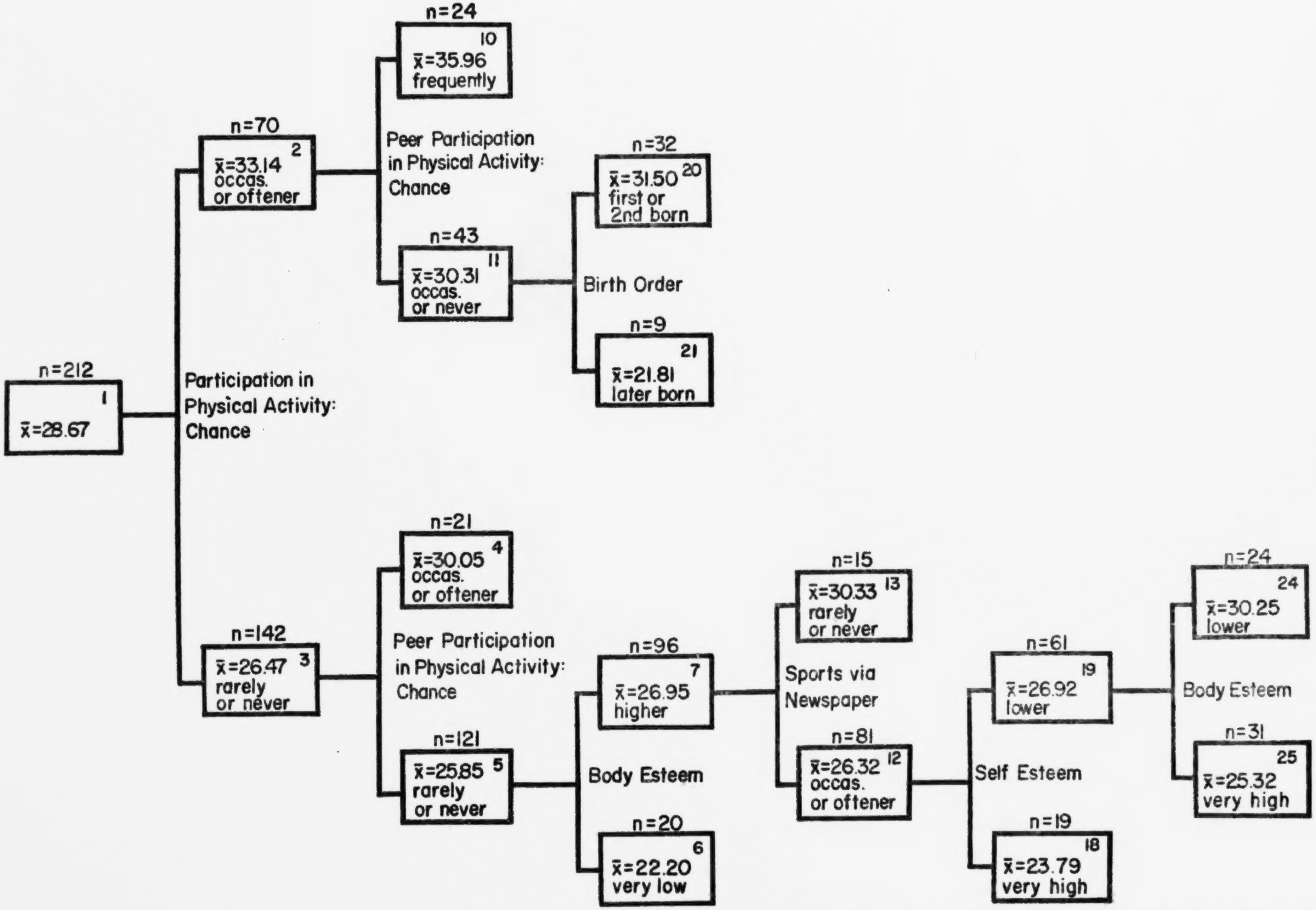
n=212
1
x̄=28.67
Participation in Physical Activity: Chance
n=70
x̄=33.14
2
occas. or oftener
n=142
x̄=26.47
3
rarely or never
Peer Participation in Physical Activity: Chance
n=24
10
x̄=35.96
frequently
n=43
x̄=30.31
11
occas. or never
Birth Order
n=32
x̄=31.50
20
first or 2nd born
n=9
21
x̄=21.81
later born
Peer Participation in Physical Activity: Chance
n=21
x̄=30.05
4
occas. or oftener
n=121
x̄=25.85
5
rarely or never
Body Esteem
n=96
7
x̄=26.95
higher
n=20
6
x̄=22.20
very low
Sports via Newspaper
n=15
x̄=30.33
13
rarely or never
n=81
x̄=26.32
12
occas. or oftener
Self Esteem
n=61
19
x̄=26.92
lower
n=19
18
x̄=23.79
very high
Body Esteem
n=24
24
x̄=30.25
lower
n=31
25
x̄=25.32
very high

FIGURE 31. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE AMONG AUSTRALIAN SECONDARY SCHOOL STUDENTS

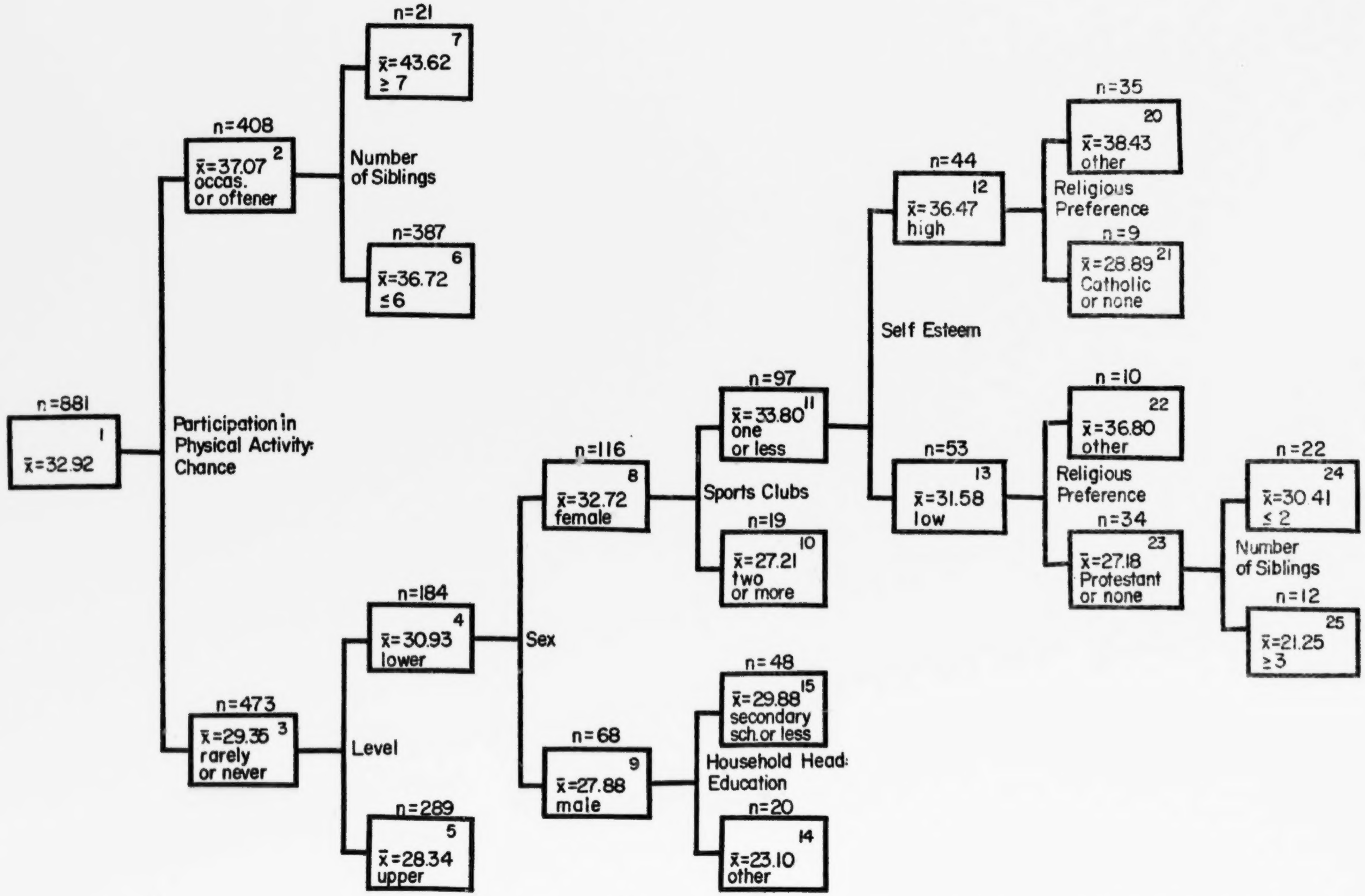
n=881
1
x̄=32.92
Participation in
Physical Activity:
Chance
n=408
2
x̄=37.07
occas.
or oftener
Number
of Siblings
n=21
7
x̄=43.62
≥ 7
n=387
6
x̄=36.72
≤6
n=473
3
x̄=29.35
rarely
or never
Level
n=184
4
x̄=30.93
lower
n=289
5
x̄=28.34
upper
Sex
n=116
8
x̄=32.72
female
n=68
9
x̄=27.88
male
Sports Clubs
n=97
11
x̄=33.80
one
or less
n=19
10
x̄=27.21
two
or more
Household Head:
Education
n=48
15
x̄=29.88
secondary
sch.or less
n=20
14
x̄=23.10
other
Self Esteem
n=44
12
x̄=36.47
high
n=53
13
x̄=31.58
low
Religious
Preference
n=35
20
x̄=38.43
other
n=9
21
x̄=28.89
Catholic
or none
Religious
Preference
n=10
22
x̄=36.80
other
n=34
23
x̄=27.18
Protestant
or none
Number
of Siblings
n=22
24
x̄=30.41
≤ 2
n=12
25
x̄=21.25
≥3

FIGURE 32. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE AMONG ENGLISH SECONDARY SCHOOL STUDENTS

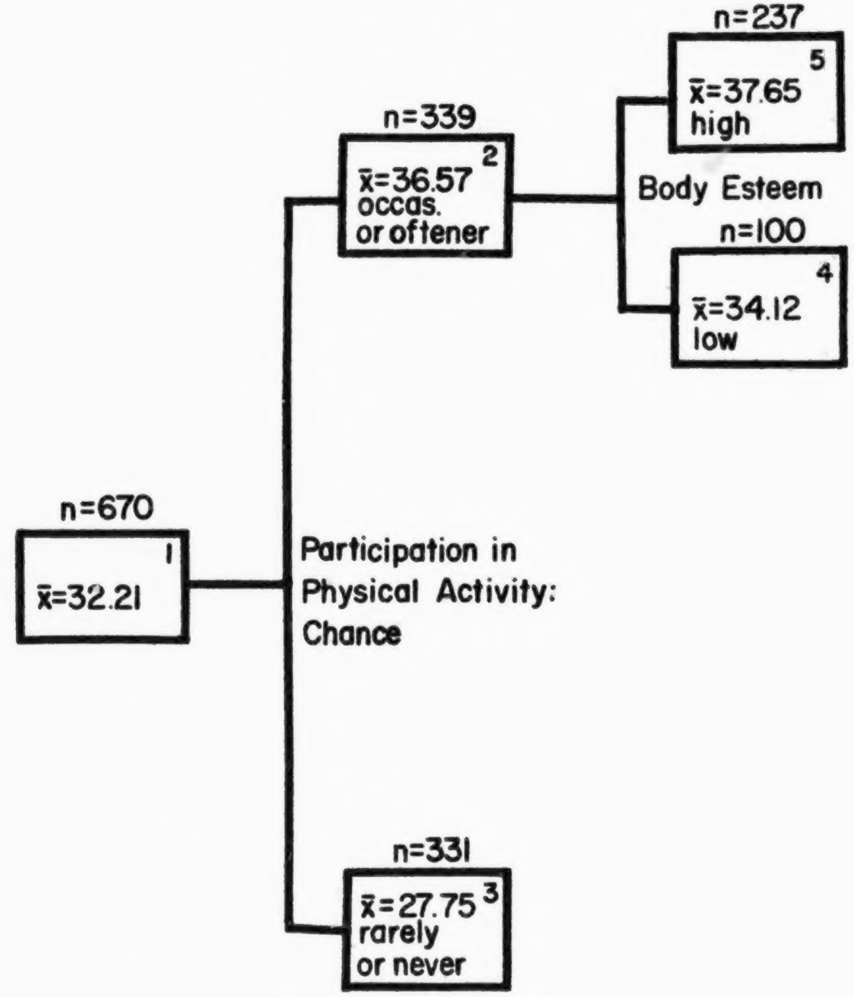
n=670
1
x̄=32.21
Participation in
Physical Activity:
Chance
n=339
2
x̄=36.57
occas.
or oftener
n=331
3
x̄=27.75
rarely
or never
Body Esteem
n=237
5
x̄=37.65
high
n=100
4
x̄=34.12
low

FIGURE 33. FACTORS ASSOCIATED WITH ATTITUDE TOWARD PHYSICAL ACTIVITY AS CHANCE AMONG U.S. SECONDARY SCHOOL STUDENTS

by frequent attendance at sporting events in the summer, rare if any religious attendance and at least occasional participation in chance physical activity. On the other hand, drawing from the Australian data group eighteen (n = 19), representing a "low" group, can be characterized by having high self-esteem, occasional or oftener consumption of sport via the newspaper, moderate or higher body-esteem, rare if ever participation in chance physical activity by peers and rare if ever participation in physical activity perceived as chance. Again further information can be had by examining the associated table and figures.

III. Summary

It was the purpose of this chapter to describe the results of efforts to explore the power of a variety of independent variables for explaining attitude toward seven dimensions of physical activity. The independent variables were of three kinds: behavioral variables, namely involvement in various forms of physical activity; certain dispositional traits; and several situational variables. For each of the seven analyses a non-symetrical branching process was employed to determine the relative explanatory power of certain independent variables chosen both a priori and a posteriori.

In general, it can be concluded that attitude toward the various dimensions of physical activity is a function of both primary and secondary involvement in the activity toward which attitude is experienced. In addition, attitude was found to be associated with certain behavioral dispositions, includy body-esteem, self-esteem, and need for approval. However, the explanatory power of the several situational variables differed considerably among the various attitude dimensions; at no time did they account for a large proportion of variance although significant associations were frequently observed.

A finding that could have implications for future studies, is that apparently it is possible to explain an attitude of given direction and intensity by more than one combination of traits. In terms of this study, two or more groups were often identified whose mean attitude scores were quite similar, yet whose dispositional and situational characteristics were quite dissimilar.

The proportion of total variance accounted for by the several independent variables in any one analysis varied from one dimension of attitude to another. However, the proportion was, in nearly every analysis, less than fifty percent, which would be equivalent to a multiple R of approximately 0.70. It is likely that there are several factors that account for the unexplained variance. One of the most important of these would be the unreliability of both the dependent and independent variables. In addition, however, it is possible that certain other factors would be important, such as antecedent variables associated with the socialization process. No doubt the inclusion of ability and achievement data would also make a contribution to minimizing the unexplained variance.

Although work described in this chapter represents some necessary beginning steps, greater success in the explanation of attitude toward physical activity awaits a more definitive theory concerning the etiology of such attitudes. Moreover, in view of the apparent link between attitude and involvement, it would behoove the future investigator to take cognizance of our emerging theories of involvement or involvement socialization.

CHAPTER SIX

CORRELATES OF INVOLVEMENT IN PHYSICAL ACTIVITY

The purpose of this chapter is to present the results of limited attempts to identify the various dispositional and situational factors associated with primary and secondary involvement. As was the case in the previous chapter, a multivariate approach was used. Not all aspects of involvement were suitable for this approach. However, findings are presented for manifestations of both primary and secondary involvement.

I. Correlates of Primary Involvement

Two aspects of primary involvement were studied, namely sports or other forms of physical activity in which students enjoyed participating the most, and sport in which students would like to participate, given the opportunity to do so. In both cases, the association between primary involvement and the situational and dispositional variables was determined using multiple discriminant analyses (Morrison and Art), whereby subjects classified according to their favorite or most desired activity, are hypothesized to fall into similar groups on the basis of certain other traits.

Favorite Primary Involvement. Table Sixty provides data describing the relative preference for primary involvement (See Code Manual, Appendix F, for classification procedure). Table Sixty-one provides the same information for most desired primary participation, given the opportunity.

When subjects are grouped according to the four most popular activity types, namely Pursuit of Vertigo, Aesthetic, Social, and Ascetic, significant discriminant functions were obtained using nine of the thirty

Table 60 - Favorite Sport for Primary Involvement
(In Percent of Those Responding)

Country	Favorite Sport Classified as: A Social Experience	Health and Fitness	The Pursuit of Vertigo	An Aesthetic Experience	Catharsis	An Ascetic Experience	Chance	Unclassified	n
Canada	16	0	12	2	32	36	0	2	924
Australia	10	1	3	0	34	42	0	10	166
England	14	0	4	3	38	33	0	8	774
United States	15	0	3	1	24	54	0	3	653
All Countries	15	0	7	2	32	40	0	4	2517

Table 61 - Most Desired Sport for Primary Involvement, Given the Opportunity for Participation
(In Percent of Those Responding)

Country	Favorite Sport Classified as: A Social Experience	Health and Fitness	The Pursuit of Vertigo	An Aesthetic Experience	Catharsis	An Ascetic Experience	Chance	Unclassified	n
Canada	1	1	31	3	26	29	1	8	908
Australia	2	0	24	2	28	29	1	14	170
England	0	0	28	5	27	28	1	11	761
United States	1	0	19	1	19	55	0	5	636
All Countries	1	0	27	3	24	36	1	8	2475

seven variables originally considered. Sex was the most powerful discriminating variable. Other contributing variables included two representing primary involvement, two situational measures and two attitude measures. Further details are given in Tables Sixty-two and Sixty-three.

Most Desired Primary Involvement. Table Sixty-one presents descriptive statistics for the most desired primary participation, given opportunity. When subjects are grouped according to the three most popular activity types, namely ascetic, pursuit of vertigo, and aesthetic, significant discriminant functions were obtained using eleven of the thirty-seven variables originally submitted. Again sex accounted for the most variance. Others included two primary involvement variables, and three situational measures. As is illustrated in Tables Sixty-four and Sixty-five, the variables making significant contributions for discriminating among groups on the basis of most desired physical activity, differ considerably from those discriminating among groups classified according to most preferred activity.

II. Correlates of Secondary Involvement

Two aspects of secondary involvement were considered: Attendance at sporting events, and consumption of sport via television:

Attendance at Sporting Events. Discriminant function analyses were used to determine whether three groups classified on the basis of their frequency of attendance at sporting events would remain more or less distinct when they were compared on the basis of several behavioral, dispositional and situational variables.

Table 62 - F Ratios of Individual Variables Used as Independent Variables in Discriminant Analysis to Explain Primary Involvement in Favorite Sport

Independent Variable	F	P
Participation in Physical Activity: Social	1.65	**
Participation in Physical Activity: Health & Fitness	28.03	**
Participation in Physical Activity: Pursuit of Vertigo	40.48	**
Participation in Physical Activity: Aesthetic	26.02	**
Participation in Physical Activity: Catharsis	5.75	**
Participation in Physical Activity: Ascetic	40.00	**
Participation in Physical Activity: Chance	10.25	**
Televised Physical Activity: Teen Dance	20.49	**
Televised Physical Activity: Health & Fitness	1.17	
Televised Physical Activity: Pursuit of Vertigo	39.94	**
Televised Physical Activity: Catharsis	7.22	**
Televised Physical Activity: Professional Sport	73.90	**
Sports via Newspaper	78.00	**
Sports via Books and Magazines	50.69	**
Sports Clubs	8.46	**
Televised Sport - Hours of Viewing in Summer	20.39	**
Televised Sport - Hours of Viewing in Winter	18.43	**
Number of Siblings	3.10	*
Birth Order	2.41	
Household Head: Education	2.84	*
Household Head: Occupation	12.88	**
Religious Attendance	0.82	
Sports Attendance in Summer	6.42	**
Sports Attendance in Winter	12.61	**
Grade	0.43	
Sex	222.73	**
Attitude toward Physical Activity: Social	0.35	
Attitude toward Physical Activity: Health & Fitness	4.86	**
Attitude toward Physical Activity: Pursuit of Vertigo	12.27	**
Attitude toward Physical Activity: Aesthetic	24.43	**
Attitude toward Physical Activity: Catharsis	0.47	
Attitude toward Physical Activity: Ascetic	18.54	**
Attitude toward Physical Activity: Chance	1.21	
Body-Esteem	1.49	
Need for Approval	0.78	
Self-Esteem	6.90	**
Relation with Father	1.07	

** $P < .01$
* $P < .05$

Table 63 - Relative Contributions of Variables Entering Discriminant Function Explaining Primary Involvement in Favorite Sport

Variable Entered	Means				Rao's V for total set	Rao's V added by variable entered	Weights for Function I[a]	Weights for Function II[b]	Weights for Function III[c]
	Sport as a Social Experience (n = 370)	Sport as the Pursuit of Vertigo (n = 166)	Sport as an Aesthetic Experience (n = 45)	Sport as an Ascetic Experience (n = 1066)					
Sex	1.85	1.60	1.87	1.24	668	668	12.21	.74	4.26
Sports via Newspaper	1.94	1.66	1.91	1.31	771	103	9.04	1.94	2.13
Televised Physical Activity: Teen Dance	1.32	1.72	1.40	1.65	826	55	- 6.17	10.72	7.49
Household Head: Occupation	4.40	3.47	4.04	4.23	860	34	.02	-42.71	-25.76
Participation in Physical Activity: Health & Fitness	1.61	1.45	1.58	1.27	882	22	5.44	1.19	- 2.68
Participation in Physical Activity: Aesthetic	2.14	2.31	1.36	2.35	915	33	- 4.36	-11.87	25.16
Attitude toward Physical Activity: Ascetic	30.27	33.78	35.84	34.36	932	17	-48.17	157.78	-57.93
Sports Attendance in Summer	1.90	1.76	1.96	1.69	947	15	4.28	- 1.59	- 5.73
Number of Siblings	2.63	2.56	2.09	2.84	961	14	-10.50	-15.99	10.26

λ = .585 (F = 34.29, P< .01)

a. Percent of total discriminating power of the battery contained in discriminant function I = 89.3%
b. Percent of total discriminating power of the battery contained in discriminant function II = 6.0%
c. Percent of total discriminating power of the battery contained in discriminant function III = 4.7%

Table 64 - F Ratios of Individual Variables Used as Independent Variables in Discriminant Analysis to Explain Primary Involvement in Most Desired Sport

Independent Variable	F	P
Participation in Physical Activity: Social	2.13	
Participation in Physical Activity: Health & Fitness	1.13	
Participation in Physical Activity: Pursuit of Vertigo	10.62	**
Participation in Physical Activity: Aesthetic	12.83	**
Participation in Physical Activity: Catharsis	1.18	
Participation in Physical Activity: Ascetic	9.16	**
Participation in Physical Activity: Chance	8.59	**
Televised Physical Activity: Teen Dance	9.63	**
Televised Physical Activity: Health & Fitness	4.38	*
Televised Physical Activity: Pursuit of Vertigo	37.95	**
Televised Physical Activity: Catharsis	17.31	**
Televised Physical Activity: Professional Sport	70.91	**
Sports via Newspaper	54.30	**
Sports via Books and Magazines	33.77	**
Sports Clubs	7.47	**
Televised Sport - Hours of Viewing in Summer	8.96	**
Televised Sport - Hours of Viewing in Winter	14.47	**
Number of Siblings	11.52	**
Birth Order	9.39	**
Household Head: Education	5.47	**
Household Head: Occupation	6.81	**
Religious Attendance	0.56	
Sports Attendance in Summer	7.71	**
Sports Attendance in Winter	10.42	**
Grade	6.15	**
Sex	77.58	**
Attitude toward Physical Activity: Social	8.39	**
Attitude toward Physical Activity: Health & Fitness	2.60	
Attitude toward Physical Activity: Pursuit of Vertigo	4.19	*
Attitude toward Physical Activity: Aesthetic	33.98	**
Attitude toward Physical Activity: Catharsis	4.02	*
Attitude toward Physical Activity: Ascetic	5.23	**
Attitude toward Physical Activity: Chance	1.00	
Body-Esteem	0.72	
Need for Approval	13.88	**
Self-Esteem	5.29	**
Relation with Father	5.56	**

** $P < .01$
* $P < .05$

Table 65 - Relative Contributions of Variables Entering Discriminant Functions Explaining Primary Involvement in Most Desired Sport

Variable Entered	Means			Rao's V for total set	Rao's V Added by Variable Entered	Relative Weight as contribution to discriminatory power Function I[a]	Relative Weight as contribution to discriminatory power Function II[b]
	Sport as the Pursuit of Vertigo (n = 653)	Sport as an Aesthetic Experience (n = 71)	Sport as an Ascetic Experience (n = 884)				
Sex	1.49	1.97	1.32	155	155	-10.27	- 9.73
Televised Physical Activity - Pro. & College Sport	1.88	2.09	1.42	225	70	-14.48	9.29
Need for Approval	14.50	14.86	15.96	254	29	56.27	-25.42
Number of Siblings	2.51	2.15	2.95	278	24	20.54	7.39
Grade	1.59	1.43	1.49	289	11	- 2.76	6.58
Attitude toward Physical Activity: Ascetic	31.94	33.95	33.45	300	11	66.37	-147.16
Sports Clubs	2.14	2.28	2.34	315	15	7.79	- 8.14
Sports Attendance in Winter	1.93	2.03	1.70	328	13	- 8.98	5.53
Household Head: Occupation	3.88	4.30	4.21	338	10	7.58	-21.99
Attitude toward Physical Activity: Vertigo	37.74	38.11	36.41	345	7	-69.98	-16.64
Participation in Physical Activity: Vertigo	2.06	2.57	2.08	351	6	- 2.55	-13.87

$\lambda = .797$ $(F = 17.43, P < .01)$

---

a. Percent of total discriminating power of the battery contained in discriminant function I = 81.3%
b. Percent of total discriminating power of the battery contained in discriminant function II = 18.7%

The relative summer and winter attendance statistics for students from Canada, England, and the United States (Australia data were unavailable for this phase of the study) are given in Tables Sixty-six and Sixty-seven. The results of the discrimant analyses, show that groups classified according to their frequency of attendance at sporting events are significantly different on behavioral, dispositional, and situational traits. In *summer,* the attendance in winter provides the greatest contribution to separating the groups (See Tables Sixty-eight and Sixty-nine). Other significant variables included two behavioral, two secondary involvement variables, one dispositional, and two situational variables. In *winter,* attendance in summer provides the greatest contribution (See Tables Seventy and Seventy-one). One primary and another secondary involvement variable also made substantial contributions to the discriminating power of the function separating the groups.

Consumption of Sport Via Television. Since the consumption of televised sport was expressed as a continuous variable, namely, hours of viewing per week, it was possible to use the same non-symetrical branching of correlates of attitude as reported in Chapter Five. Thus, a variety of variables were included in analyses of data representing both winter and summer involvement. In the interests of parsimony country was used as an independent variable, thus reducing the number of analyses for each dependent variable from four to one.

As is seen by examining Table Seventy-two and Figure Thirty-four relatively few variables were significantly associated with consumption of televised sport in the summer. The three variables which accounted for 29.43 percent of the variance were country, and two aspects of involvement via the press, namely sport via books and magazines, and sport via

Table 66 - Attendance at Sporting Events During the Summer
(In Percent of Those Responding)

Country*	Frequency of Attendance			n
	Once or More per week	Once or twice per month	Less than once per month	
Canada	36	46	18	941
England	31	37	32	880
United States	28	47	25	670
All Countries	32	43	25	2491

* Data unavailable from Australian sample.

Table 67 - Attendance at Sporting Events During the Winter
(In Percent of Those Responding)

Country*	Frequency of Attendance			n
	Once or More per week	Once or twice per month	Less than once per month	
Canada	24	43	33	912
England	26	27	47	841
United States	43	35	22	633
All countries	30	35	35	2386

* Data unavailable from Australian sample.

Table 68 - F Ratios of Individual Variables Used as Independent Variables in Discriminant Analysis to Explain Attendance at Sporting Events During the Summer

Independent Variable	F	P
Participation in Physical Activity: Social	45.57	**
Participation in Physical Activity: Health & Fitness	11.74	**
Participation in Physical Activity: Pursuit of Vertigo	33.15	**
Participation in Physical Activity: Aesthetic	10.93	**
Participation in Physical Activity: Catharsis	22.76	**
Participation in Physical Activity: Ascetic	27.64	**
Participation in Physical Activity: Chance	9.87	**
Televised Physical Activity: Teen Dance	6.70	**
Televised Physical Activity: Health & Fitness	10.60	**
Televised Physical Activity: Pursuit of Vertigo	67.74	**
Televised Physical Activity: Catharsis	15.21	**
Televised Physcial Activity: Professional Sport	78.25	**
Sport via Newspaper	58.86	**
Sport via Books and Magazines	71.31	**
Sports Clubs	70.33	**
Televised Sport: Hours of Viewing in Summer	22.05	**
Televised Sport: Hours of Viewing in Winter	25.90	**
Number of Siblings	2.60	
Birth Order	2.58	
Household Head: Education	1.74	
Household Head: Occupation	1.35	
Religious Attendance	1.67	
Sports Attendance in Winter	154.57	**
Grade	0.60	
Sex	7.21	**
Attitude toward Physical Activity: Social	12.80	**
Attitude toward Physical Activity: Health & Fitness	12.92	**
Attitude toward Physical Activity: Pursuit of Vertigo	11.59	**
Attitude toward Physical Activity: Aesthetic	1.30	**
Attitude toward Physical Activity: Catharsis	13.21	**
Attitude toward Physical Activity: Ascetic	13.53	**
Attitude toward Physical Activity: Chance	0.01	
Body-Esteem	6.22	**
Need for Approval	0.23	
Self-Esteem	2.38	
Relation with Father	0.21	

** $P < .01$
* $P < .05$

Table 69 - Relative Contributions of Variables Entering Discriminant Functions Explaining Frequency of Attendance at Sporting Events During the Summer

Variable Entered	Means: Once or more per week (n = 471)	Means: Once or twice per month (n = 647)	Means: less than once per month (n = 355)	Rao's V for total set	Rao's V added by variable	Weights: Function I[a]	Weights: Function II[b]
Sports Attendance in Winter	1.52	2.06	2.50	309	309	20.48	13.34
Televised Physical Activity: Vertigo	1.40	1.57	1.93	396	87	8.26	-11.47
Sports Clubs	1.94	2.22	2.55	466	70	12.09	- 2.01
Attitude toward Physical Activity: Catharsis	46.12	46.47	43.88	486	20	-44.34	190.88
Participation in Physical Activity: Chance	2.26	2.35	2.49	503	17	5.10	- 3.28
Televised Physical Activity: Teen Dance	1.49	1.63	1.67	509	6	2.88	10.53
Number of Siblings	2.76	2.51	2.52	515	6	- 5.75	-21.67
Household Head: Education	4.05	4.05	3.87	520	5	- 6.64	9.59

$\lambda = .724$ ($F = 32.08$, $P < .01$)

a. Percent of total discriminating power of the battery contained in discriminant function I = 95.3%

b. Percent of total discriminating power of the battery contained in discriminant function II = 4.7%

Table 70 - F.Ratios of Variables Used as Independent Variables in Discriminant Analysis to Explain Attendance at Sporting Events During the Winter

Independent Variable	F	P
Participation in Physical Activity: Social	63.66	**
Participation in Physical Activity: Health & Fitness	21.90	**
Participation in Physical Activity: Pursuit of Vertigo	39.55	**
Participation in Physical Activity: Aesthetic	6.46	**
Participation in Physical Activity: Catharsis	17.46	**
Participation in Physical Activity: Ascetic	33.94	**
Participation in Physical Activity: Chance	0.83	
Televised Physical Activity: Teen Dance	2.31	
Televised Physical Activity: Health & Fitness	4.67	**
Televised Physical Activity: Pursuit of Vertigo	47.92	**
Televised Physical Activity: Catharsis	10.77	**
Televised Physical Activity: Professional Sport	102.16	**
Sport via Newspaper	99.21	**
Sport via Books and Magazines	77.42	**
Sports Clubs	57.43	**
Televised Sport: Hours of Viewing in Summer	15.91	**
Televised Sport: Hours of Viewing in Winter	22.16	**
Number of Siblings	1.27	
Birth Order	1.32	
Household Head: Education	3.11	*
Household Head: Occupation	0.37	
Religious Attendance	6.03	**
Sports Attendance in Summer	248.83	**
Grade	1.14	
Sex	11.98	**
Attitude toward Physical Activity: Social	9.63	**
Attitude toward Physical Activity: Health & Fitness	9.24	**
Attitude toward Physical Activity: Pursuit of Vertigo	11.15	**
Attitude toward Physical Activity: Aesthetic	1.69	
Attitude toward Physical Activity: Catharsis	9.97	**
Attitude toward Physical Activity: Ascetic	28.57	**
Attitude toward Physical Activity: Chance	1.40	
Body-Esteem	12.20	**
Need for Approval	0.49	
Self-Esteem	4.97	**
Relation with Father	0.00	

** P<.01
* P<.05

Table 71 - Relative Contributions of Variables Entering Discriminant Functions Explaining Frequency of Attendance at Sporting Events During the Winter

Variable Entered	Means			Rao's V for total set	Rao's V added by variable	Weights: Function I[a]	Weights: Function II[b]
	Once or more per week (n = 401)	Once or twice per month (n = 507)	less than once per month (n = 506)				
Sport Attendance in Summer	1.48	1.78	2.40	498	498	-18.23	- 0.56
Sports via Newspaper	1.27	1.45	1.93	647	149	-12.20	8.53
Participation in Physical Activity: Social	1.32	1.54	1.85	689	42	- 7.69	-11.11
Religious Attendance	1.96	1.94	2.17	702	13	- 5.32	18.97
Household Head: Education	3.87	4.13	4.00	708	6	- 4.46	-46.18

$\lambda = .654$ ($F = 66.65$, $P < .01$)

a. Percent of total discriminating power of the battery contained in discriminant function I = 98.6%
b. Percent of total discriminating power of the battery contained in discriminant function II = 1.4%

TABLE 72.-PERCENT OF VARIANCE ACCOUNTED FOR BY EACH OF THE INDEPENDENT VARIABLES: HOURS OF VIEWING SPORT ON TELEVISION DURING THE SUMMER AND THE WINTER

Independent Variable	T. V. Sport In Summer	T. V. Sport In Winter
Part. in Phys. Act.: Social	.92	1.13
Part. in Phys. Act.: Health and Fitness	.72	.62
Part. in Phys. Act.: Pursuit of Vertigo	1.30	2.09
Part. in Phys. Act.: Aesthetic	.42	.39
Part. in Phys. Act.: Ascetic	2.37	3.36
Part. in Phys. Act.: Chance	1.22	.84
Sports via Newspaper	3.42	3.74
Sports via Books and Magazines	3.66	3.84
Sports Clubs	.49	.63
Number of Siblings	.73	1.19
Birth Order	.51	.36
Household Head: Education	.53	.73
Household Head: Occupation	1.41	1.55
Religious Preference	.59	.78
Religious Attendance *	.51	.61
Sports Attendance in Summer *	1.81	1.96
Sports Attendance in Winter *	1.09	1.53
Level of Educational Attainment	.63	1.08
Sex	1.93	3.30
Body Esteem	1.07	.91
Need for Approval	.37	.36
Self Esteem	.21	.20
Relation with Father	.48	.62
Country	3.04	3.14
Total	29.43	34.96

*Data on the variable unavailable from Australian sample.

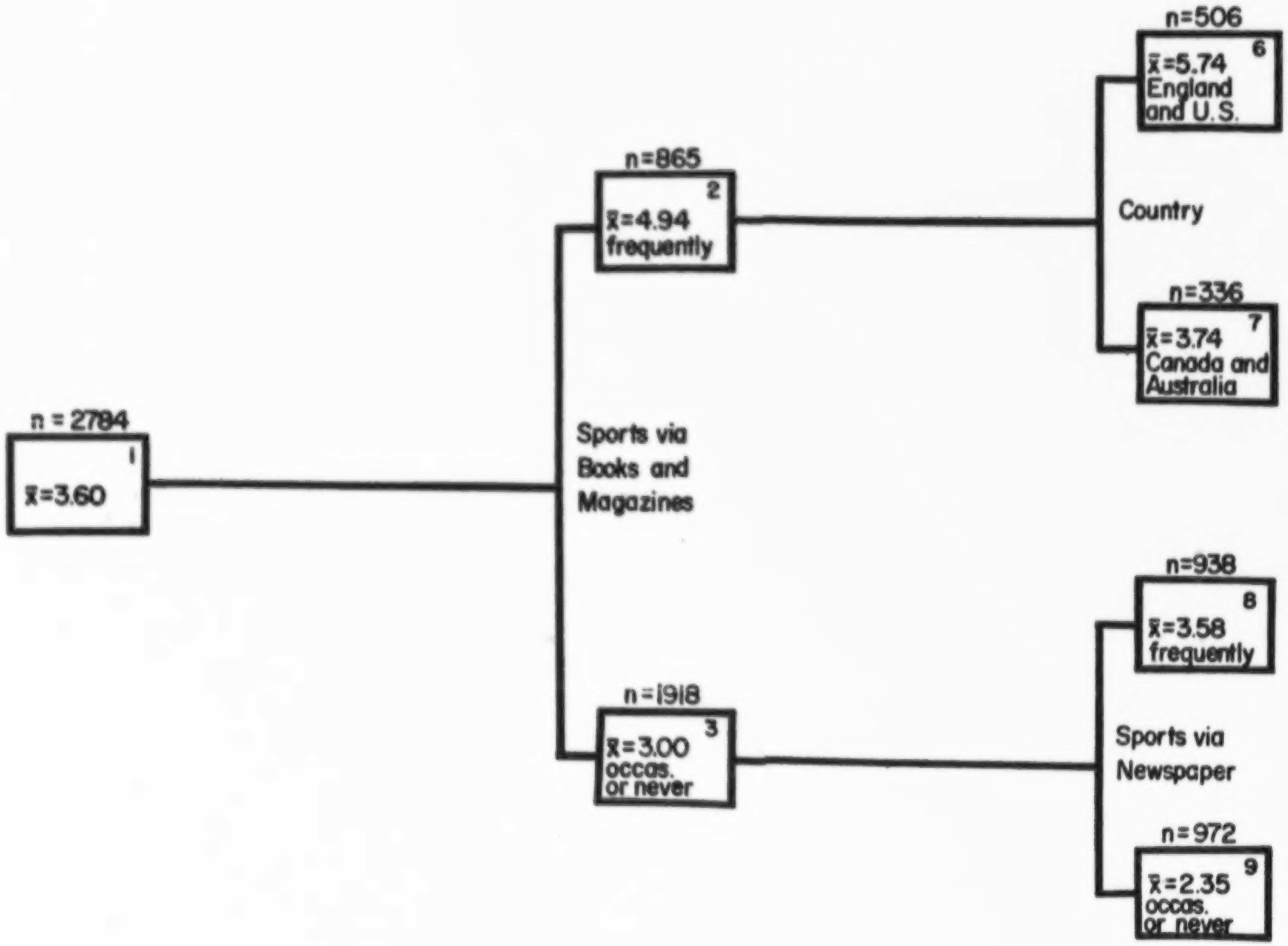
n = 2784
1
x̄=3.60
Sports via
Books and
Magazines
n=865
2
x̄=4.94
frequently
n=1918
3
x̄=3.00
occas.
or never
Country
n=506
6
x̄=5.74
England
and U.S.
n=336
7
x̄=3.74
Canada and
Australia
Sports via
Newspaper
n=938
8
x̄=3.58
frequently
n=972
9
x̄=2.35
occas.
or never

FIGURE 34. FACTORS ASSOCIATED WITH SECONDARY INVOLVEMENT IN PHYSICAL ACTIVITY: HOURS OF VIEWING SPORTS ON TELEVISION DURING THE SUMMER

the newspaper. The group consuming the least amount of televised sport in the summer ($\bar{X}$=2.35 hours per week, n=972) seldom read about sport in either books, magazines, or newspapers. On the other hand, those who consumed larger amounts of televised sport ($\bar{X}$=5.74 hours per week, n=506) did read about sport and were more likely to be English or American as opposed to Canadian or Australian. Although only limited information is available from this analysis, it would appear that further support is provided for the concept of general involvement.

With respect to explaining consumption of televised sport in the winter, 34.96 percent of the variance was accounted for, as revealed in Table Seventy-two and Figure Thirty-five. The major contributing variables again were other forms of involvement, sex, country, social class background, and religious preference and attendance. An extreme "high" group ($\bar{X}$=18.15 hours per week, n=26) were male protestant American students who frequently read about sport in both books and magazines, attended sporting events frequently in summer, and who participated frequently in vertiginous physical activity. A "low" group on the other hand, reflected many of the same characteristics as the low consumers of televised sport in summer, namely, an infrequent involvement in other forms of sport (group 5:$\bar{X}$=3.11, n=973).

In addition to the foregoing, it can be said that televised sport is relatively popular in both summer and winter, but more so in winter.

III. Summary

As a result of a very limited exploration of factors associated with involvement in sport and physical activity, it was found that a variety of behavioral, dispositional, and situational variables were significantly related to each of the different forms of involvement included in the

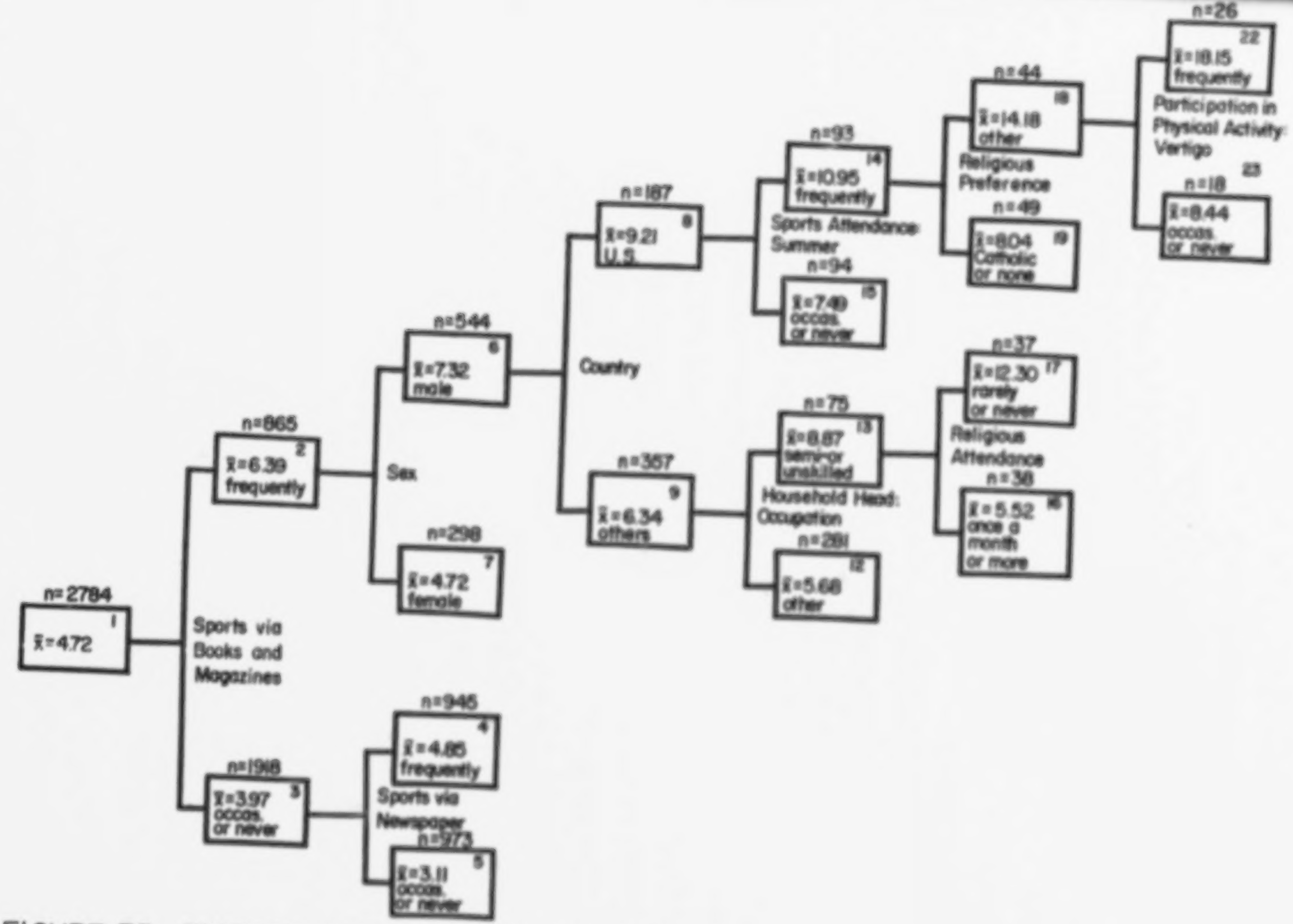
n=2784
1
x̄=4.72
Sports via
Books and
Magazines
n=865
2
x̄=6.39
frequently
n=1918
3
x̄=3.97
occas.
or never
Sex
n=544
6
x̄=7.32
male
n=298
7
x̄=4.72
female
Sports via
Newspaper
n=946
4
x̄=4.85
frequently
n=973
5
x̄=3.11
occas.
or never
Country
n=187
8
x̄=9.21
U.S.
n=357
9
x̄=6.34
others
Sports Attendance:
Summer
n=93
14
x̄=10.95
frequently
n=94
15
x̄=7.49
occas.
or never
Household Head:
Occupation
n=75
13
x̄=8.87
semi-or
unskilled
n=281
12
x̄=5.68
other
Religious
Preference
n=44
18
x̄=14.18
other
n=49
19
x̄=8.04
Catholic
or none
Religious
Attendance
n=37
17
x̄=12.30
rarely
or never
n=38
16
x̄=5.52
once a
month
or more
Participation in
Physical Activity:
Vertigo
n=26
22
x̄=18.15
frequently
n=18
23
x̄=8.44
occas.
or never

FIGURE 35. FACTORS ASSOCIATED WITH SECONDARY INVOLVEMENT IN PHYSICAL ACTIVITY: HOURS OF VIEWING SPORTS ON TELEVISION DURING THE WINTER

analyses. Although it was found that primary involvement, at least in some forms, tends to be positively related to secondary involvement (a generalized involvement hypothesis), numerous other variables come into the picture, which suggests involvement to be the result of a rather complex set of factos. However, much unexplained variance remains. Greater success in the explanation of involvement awaits further research based upon a more definitive theory of involvement and involvement socialization.

CHAPTER SEVEN

SUMMARY AND CONCLUSIONS

During 1966 a cross-national study was undertaken to determine values held for sport and physical activity among selected secondary school students. More specifically, there were four objectives:

1. To determine attitudes toward physical activity of urban secondary school students as a function of country, sex, level of educational attainment.
2. To determine the nature and degree of involvement in physical activity among urban secondary school students as a function of country, sex, level of educational attainment.
3. To determine the significance of certain behavioral, dispositional, and situational variables in explaining attitude toward physical activity.
4. To determine the significance of certain behavioral, dispositional and situtional variables in explaining involvement in physical activity.

The study was an exploratory one designed not to test a well-defined theory of attitude toward, or involvement in physical activity, but rather to provide the basic data from which theoretical statements, at least in part, could emerge.

To meet the objectives of the study, approximately four thousand secondary school students from Canada, Australia, England and the United States were administered three inventories designed to elicit data concerning their attitude toward and involvement in sport and physical activity, together with certain dispositional and situational measures thought to be associated with attitude and involvement. The data were subjected to a number of analyses designed to determine the association between independent and dependent variables while controlling for sex, country, and level of educational attainment.

While no hypotheses were stated explicitly, it was postulated that in general: relationships would exist between attitude toward, and involvement in similar forms of physical activity; attitudes toward, and involvement in various forms of physical activity would be a function of certain behavioral dispositions, including social values, body-esteem, need for approval, self-esteem, and relation with father; and that attitude toward, and involvement in physical activity, would be a function of certain situational variables, such as peer involvement, father's involvement, family size, birth order, national origin of parents, social class background, religious preference and devotion. A more complete rationale is provided in Chapters One and Two.

Based upon findings derived from analyses of attitudinal, involvement, behavioral, dispositional, and situational data, the following general conclusions are presented. (The reader should refer to the previous chapters for detailed findings.)

Attitude

1. Attitude toward physical activity is a function of the perceived instrumental value associated with the activity in question. Among secondary school students the most positive attitudes are those toward physical activity characterized as a social experience, as health and fitness, as an aesthetic experience, and as catharsis. Less positive attitudes prevail when physical activity is characterized as the pursuit of vertigo, as an ascetic experience, and as chance.

2. Attitude toward physical activity is a function of sex. Females possess a more positive attitude toward physical activity when it is perceived as a social experience, as health and fitness, as an aesthetic

experience, and as catharsis, while males possess more positive attitudes than females toward physical activity perceived as the pursuit of vertigo, as an ascetic experience, and as chance.

3. The relative position of each of the seven dimensions of attitude are consistent across the four countries studied. In general, Australian secondary school students possess less positive attitudes toward physical activity than those representing the other three nations.

4. Older students are more disposed toward physical activity as an ascetic experience and as catharsis than the younger students. Younger students, on the other hand, express a more positive attitude toward physical activity as chance than their older counterparts.

5. Attitude toward physical activity is directly related to the degree of primary and secondary involvement in activity toward which the attitude is expressed.

6. To some extent, attitudes toward physical activity are a function of other acquired behavioral dispositions, including body-esteem, self-esteem, need for approval, social values, and relationship with father.

Involvement

1. Although marked differences exist among various forms of involvement and between sexes, the over-all extent to which secondary school students from the four countries studied are involved, both directly and vicariously, is considerable.

2. Although national differences were not great, in general the United States student is involved in sport and physical activity to a greater extent than those from the other three countries.

3. Both primary and secondary involvement is more prevalent among males than females, and among the younger than older students.

4. Those activities toward which the most positive attitudes were expressed are the most popular forms of both primary and secondary involvement.

5. The nature and degree of primary and secondary involvement are a function of a complex set of behavioral, dispositional, and situational factors.

The findings reported here are for the most part general and descriptive. Considerable work remains in order to account for a greater proportion of the variance contributed by factors associated with both attitude toward, and involvement in physical activity. As a prerequisite to further studies, a more definitive theory concerning the etiology of attitude toward, and involvement in physical activity is necessary. A number of promising possibilities are on the horizon. To take one example, involvement at any point in time, whether it be primary or secondary, is a function of many past and present forces. Thus one approach worth exploring might be the use of stochastic models which would take into account the changing probabilities over time of various forms of involvement, together with their several correlates. It is hoped that the work reported here will provide some of the descriptive data upon which new explanatory systems may be constructed.

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APPENDIX A

THE FEASIBILITY OF CROSS-NATIONAL RESEARCH ON VALUES HELD FOR PHYSICAL ACTIVITY

The Feasibility of Cross-National Research on Values Held for Physical Activity

One objective of the project described in this document was to determine the feasibility of cross-national studies of the significance of sport and physical activity among adolescent youth. The fulfilling of this objective come largely through the carrying out of the research already described in this report. In addition however, efforts were made to consult with educators and sociologists from several non-English speaking countries, including Poland, Germany, France, and Czeckoslovakia. On the basis of such discussions, together with the experience obtained with the research aspects of the project, it would appear that other than funding problems, no formidable obstacles would stand in the way of conducting relatively large scale studies in most of the developed countries of Europe and North America.

In addition to the necessity of including a wider range of countries, however, careful consideration is needed regarding other essential ingredients of cross-national research, namely, a receptive milieu, whether it be a school system or a community; interested and competent people to plan, direct, and supervise a particular project in a particular country; and the availability of technical resources, including efficient data processing equipment, and well-trained technicians. Insofar as survey techniques might be used, most countries now employ this approach in the study of various mass phenomena. Moreover, the use of this technique does not seem to have reached the saturation point in countries other than possibly the United States. In the case of the latter, however, many members of the population have been exposed to a wide variety of questionaires and inventories, perhaps to the point where they may be becoming less conscientious in supplying information. Yet, on the basis of experience accrued from this study, it would seem that if the stage were properly set, difficulties of this kind need not become pronounced. Certainly the cooperation afforded by school officials and students alike, auger well for the feasibility of future studies.

As an increasing number of countries develop computer operations it becomes reasonable to believe that much of the preliminary processing of data, such as the coding of inventories and the transfer of findings to punched card or magnetic tape, can be handled reasonably and competently in the country in which the data were originally collected. But, to do so successfully, and to the point where confidence in cross-national equivalence can be had, calls for extensive and careful pre-planning.

Regarding human resources, the availability and interest of social scientists is steadily rising. In travels abroad, the investigator encountered several persons either already conducting research of their own, or planning to do so. In addition, the existence of the International Committee on Sport Sociology, which is affiliated with both the International Council of Sport and Physical Education and the International Sociological Association, both of which are affiliated with UNESCO, has stimulated interest in the many aspects of sport as a social phenomenon. The Committee, in recent years, has met on several occasions with the result that interest is growing rapidly.

Already plans are under way for the conduct by ICSS of two cross-national research studies; one is concerned with the career patterns of athletes, the other, with socialization into involvement in sport.

Preliminary planning was undertaken for these projects at an international workshop held at the University of Illinois in April 1967. Final research plans are to be made at a second meeting of this group at the University of Leicester, in April, 1968. Plans such as these, which lead to the development of a receptive climate for the conduct of social inquiry, are enhanced by the convening of congresses and seminars held every two years. For example, in 1966, the committee sponsored a seminar on small group research in sport. Plans have already been made for a seminar on the sport of working youth to be held in Vienna, in October, 1968. Funds from this grant have permitted the investigator to attend and participate in such meetings, which in turn provided many valuable opportunities to discuss research problems. Thus, while the number of sociologists and other social scientists interested in sport in any country is not sufficiently large to warrant formal organization, the creation of the International Review of Sport Sociology, and the bringing together of such persons internationally has done much to foster interest throughout the world.

In summary, the experience derived from conduct of the research phase of this project, together with the opportunity to visit investigators in several countries in Europe, and to participate in several international meetings, has led the investigator to conclude that the future for cross-national research in the sociology of sport is indeed bright. The competence to carry out such studies has never been greater, nor has the availability of technical resources been as pronounced. Although the potential financial support for studies of this kind varies greatly from one country to another and from year to year, particularly in view of international events, the future looks promising.

APPENDIX B

HYPOTHESIS FOR JANESVILLE PILOT STUDY

M: I GK 1/20/66

PROJECT M: Stage I-Planning

FIRST ORDER HYPOTHESES
(based upon variables included in Janesville Phase)

Psychological and Sociological Correlates	Attitude Toward Physical Activity[1]					
	Social	H & F	Vertigo	Aesthetic	Catharsis	Ascetic
1. Interest in Phys. Act.						
a. as a participant	+[2]	+	+	+	+	+
b. as a spectator			+	+		+
c. as mass media consumer		+	+			+
2. Personality-Primary Traits						
A	+	−	+			
B		−	+	+		+
C		−				
D			+	+		
E			+	+		+
F	+	+			+	+
G						+
H	+	−	+	+		+
I		−	−	+		−
J	−			+		
O	−	+	−		+	+
Q_2	−		+			+
Q_3		−	+			+
Q_4			−			+
3. Personality-2nd order traits						
Extroversion	+	−	+	+	+	+
Anxiety		+				−
4. Personal Values and Interests						
1. Theoretical				−		
2. Economic	+	+		−	+	
3. Aesthetic				+		
4. Social	+				+	−
5. Political		+	+			+
6. Religious		+				+

---

[1] controlled for sex, level, and country

[2] a "+" signifies a positive relationship, "−" a negative relationship.

	Social	H & F	Vertigo	Aesthetic	Catharsis	Ascetic
5. Body image						
static	-	+				
dynamic	+		+			+
6. Self esteem	+		+	+	-	
7. Social class background						
upper			+			
middle					+	+
lower		+			+	
8. Religious preference						
Protestant			+			+
Catholic		+			+	
Jewish	+		-			+
9. Religious devotion	+		-			+
10. National origin						
foreign born parents						
11. Family						
size	+		-			
birth order	+		-			
relationship with father		+		-		+
12. Peer group (major interest)						
social	+					
H & F		+				
Vertigo			+			
Aesthetic				+		
Catharsis					+	
Ascetic						+
13. Club affliation	+	also as a function of club type				
14. Educational Factors						
school auspices						
public						
parochial						
school size						
large						
medium						
small						

	Social	H & F	Vertigo	Aesthetic	Catharsis	Ascetic
school type						
academic						
service						
comprehensive						
intellectual ability				+		
academic achievement		-		+		+
achievement motivation	+				-	+
future educational aspirations college/non-college				+		+

GROUP TWO: INTERESTS AND THEIR CORRELATES

Since it is hypothesized that attitudes toward physical activity are a function of interests in physical activity as defined in this study, it is further hypothesized that the correlates of interest will, in many respects, reflect those of attitude.

SECOND ORDER HYPOTHESES

Based upon findings resulting from testing the individual hypotheses, certain combinations of variables will be selected that would appear to contribute the most variance to explaining attitude toward, and interest in, physical activity. Both multiple correlation and discriminant function analysis will be used to test the efficacy of such combinations.

THIRD ORDER HYPOTHESES

On the basis of analyses testing the first and second order hypotheses new hypotheses will be deduced with the view to testing the national specificity of any of the identified relationships.

APPENDIX C

INVENTORIES
- B.A.T. (Semantic Differential Scales)
- General Information Inventory (G.I.N.)
- SENAPS

(Do Not Mark This Page)

B.A.T. (rev.) 3/30/66

INSTRUCTIONS
(using direct response)

SEM. D. SCALES OF ATPA and BI

(Project M)

The purpose of this inventory is to measure the meaning for you of certain concepts of physical activity by judging them against a series of descriptive scales. In taking this test, please make your judgements on the basis of what these things mean to you. On each page of the booklet you will find a different idea or concept to be judged and beneath it a set of scales. You are to rate the concept on each of these scales in order in which they are given.

Here is how you are to use these scales:

If you feel that the concept in the box at the top of the page, for example "REFEREE", is very closely related to one end of the scale, you should place your check-mark as follows:

REFEREE

fair	X							unfair
	1	2	3	4	5	6	7	

or

fair							X	unfair
	1	2	3	4	5	6	7	

If you feel that the concept is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

fair		X						unfair
	1	2	3	4	5	6	7	

or

fair						X		unfair
	1	2	3	4	5	6	7	

If the concept seems only slightly related to one side as opposed to the other side (but is not neutral), then you should check as follows:

fair			X					unfiar
	1	2	3	4	5	6	7	

or

fair					X			unfair
	1	2	3	4	5	6	7	

Instructions (Cont'd)

The direction toward which you check, of course, depends upon which of the two ends of the scale seem most characteristic of the thing you are judging. If you consider the concept to be neutral on the scale (that is, both sides of the scale seem equally associated with the concept), or if the scale makes no sense, (that is, it is unrelated to the concept) then you should place your check-mark in the middle space:

safe _____:_____:_____:__X__:_____:_____:_____ dangerous
1 2 3 4 5 6 7

IMPORTANT: (1) Place your check-mark in the middle of spaces, not on the boundaries:

THIS NOT THIS
_____:_____ __X__:_____X_____:_____

(2) Be sure you check every scale for every concept — do not omit any.

(3) Never put more than one check-mark on a single scale.

(4) The numbers under each scale are merely to assist in analysis of the data by computers. You do not need to pay any attention to them.

Sometimes you may feel as though you've had the same item before on the test. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the test. Make each item a separate and independent judgement. Work at a fairly high speed through the test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the items, that we want. On the other hand, please do not be careless because we want your true impressions.

DO NOT MARK THESE SHEETS: USE ANSWER SHEET

B.A.T.: Rev. 3/29/66

Using the Scales, Below, Express on the
Answer Sheet What the Concept in the Box Means to You

PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE

Sports, games and other forms of physical recreation whose primary purpose is to provide opportunities for social participation; that is, to meet new people and continue personal friendships.

As you proceed, always be thinking about the idea or concept in the box.

1. good ____:____:____:____:____:____:____ bad
   1 2 3 4 5 6 7

2. worthless ____:____:____:____:____:____:____ worthwhile
   1 2 3 4 5 6 7

3. pleasant ____:____:____:____:____:____:____ unpleasant
   1 2 3 4 5 6 7

4. sour ____:____:____:____:____:____:____ sweet
   1 2 3 4 5 6 7

5. nice ____:____:____:____:____:____:____ awful
   1 2 3 4 5 6 7

6. sad ____:____:____:____:____:____:____ happy
   1 2 3 4 5 6 7

7. clean ____:____:____:____:____:____:____ dirty
   1 2 3 4 5 6 7

8. relaxed ____:____:____:____:____:____:____ tense
   1 2 3 4 5 6 7

Remaining Attitude Concepts*

PHYSICAL ACTIVITY FOR HEALTH AND FITNESS

Participating in physical activity primarily to improve one's health and physical fitness.

PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK

Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT

Physical activities which are thought of as possessing beauty or certain artistic qualities such as ballet, gymnastics or figure skating.

PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION

The participation (or watching others participate) in physical activities to get away from the problems of modern living; to provide a release from "pent up emotions".

PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING

Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

PHYSICAL ACTIVITY AS GAMES OF CHANCE

Games and sports *where chance and luck are more important* than skill in determining the winner, such as dice or horse racing.

---

*In the inventory itself each attitude concept was placed on a separate page The same eight scales were given beneath each.

MY BODY: AS IT REALLY IS

1 2 3 4 5 6 7

relaxed ____:____:____:____:____:____:____ tense

ugly ____:____:____:____:____:____:____ beautiful

usual ____:____:____:____:____:____:____ unusual

sick ____:____:____:____:____:____:____ healthy

graceful ____:____:____:____:____:____:____ awkward

inadequate ____:____:____:____:____:____:____ adequate

rugged ____:____:____:____:____:____:____ delicate

clean ____:____:____:____:____:____:____ dirty

hard ____:____:____:____:____:____:____ soft

short ____:____:____:____:____:____:____ tall

light ____:____:____:____:____:____:____ heavy

large ____:____:____:____:____:____:____ small

masculine ____:____:____:____:____:____:____ feminine

feeble ____:____:____:____:____:____:____ vigorous

flexible ____:____:____:____:____:____:____ rigid

weak ____:____:____:____:____:____:____ strong

free ____:____:____:____:____:____:____ restricted

persist ____:____:____:____:____:____:____ letting up

passive ____:____:____:____:____:____:____ active

hot ____:____:____:____:____:____:____ cold

excitable ____:____:____:____:____:____:____ calm

simple ____:____:____:____:____:____:____ complex

fast ____:____:____:____:____:____:____ slow

permanent ____:____:____:____:____:____:____ changeable

G.I.N. 3/30/66

Name (print)____________________ School______________ Grade or Form____

General Information Inventory

(Project M)

INSTRUCTIONS

The purpose of this inventory is to find out about your various interests and activities. If you look at the questions now you will see that boxes (☐) or spaces (_____) are given for your answers. For each question write in the answer or mark the box that would be best for your.

EXAMPLE

	at least once per week	once or twice per month	less often or never
On the average, how often do you eat carrots?	☒	☐	☐

The example shows how you would answer if, on the average, you eat carrots at least once each week.

Answer each question after reading it carefully. Choose the answer that is nearest to describing your interests or activities.

---

1. How interested are you in each of the following? For each question, mark an X in the best box for you.

	AMOUNT OF INTEREST		
	very much	some	little or none
(a) Theoretical Matters. The discovery of truth, the use of logic and careful judgements as in science and philosophy.	☐	☐	☐
(b) That which is practical and useful. The manufacturing and selling of goods and products to make money. The work of the business man.	☐	☐	☐
(c) That which is beautiful. The importance of form and harmony as in various forms of art. The creative, individualistic person	☐	☐	☐
(d) That which involves other people. The unselfish liking and helping of other persons to develop warm friendships.	☐	☐	☐
(e) Politics. The interest in personal success, power, influence and esteem.	☐	☐	☐
(f) Religious Matters. The mysteries of life. The meaning of life in this and other worlds.	☐	☐	☐

2. Interest in Physical Activity. We have classified physical activity into seven types. They will be familiar to you from a previous inventory. They are as follows:

(a) PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE. Sports, games, and other forms of physical recreation whose primary purpose is to provide opportunities for social participation; that is, to meet new people and continue personal friendships.

(b) PHYSICAL ACTIVITY FOR HEALTH AND FITNESS. Participating in physical activity primarily to improve one's health and physical fitness.

(c) PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK. Physical activities providing, at some risk to the participant, thrills and excitement through speed, acceleration, sudden change of direction, and exposure to dangerous situations.

(d) PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT. Physical activities which are thought of as possessing beauty or certain artistic qualities such as ballet, gymnastics, or figure skating.

(e) PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION. The participation (or watching others participate) in physical activities to get away from the problems of modern living; to provide a release from "pent up emotions".

(f) PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING. Physical activities which require long periods of strenuous and often painful training; which involve stiff competition and demands that the individual give up a number of pleasures for a period of time.

(g) PHYSICAL ACTIVITY AS GAMES OF CHANCE. Games and sports where chance and luck are more important than skill in determining the winner, such as throwing dice, or betting on horses or dogs.

2A. How often do you actually take part in physical activities that are best described by one or more of the following categories? (when in season) Mark one box in each row.

	at least once per week	once or twice per month	less often or never	
(a) PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE	☐	☐	☐	7
(b) PHYSICAL ACTIVITY FOR HEALTH AND FITNESS	☐	☐	☐	8
(c) PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK	☐	☐	☐	9
(d) PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT	☐	☐	☐	10
(e) PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION	☐	☐	☐	11
(f) PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING	☐	☐	☐	12
(g) PHYSICAL ACTIVITY AS GAMES OF CHANCE	☐	☐	☐	13

2B. Now, thinking of your best friends, on the average, how often do they actually take part (when in season)? Mark one box in each row.

	at least once per week	once or twice per month	less often or never	
(a) PHYSICAL ACTIVITY AS A SOCIAL EXPERIENCE	☐	☐	☐	14
(b) PHYSICAL ACTIVITY FOR HEALTH AND FITNESS	☐	☐	☐	15
(c) PHYSICAL ACTIVITY AS A THRILL BUT INVOLVING SOME RISK	☐	☐	☐	16
(d) PHYSICAL ACTIVITY AS THE BEAUTY IN HUMAN MOVEMENT	☐	☐	☐	17
(e) PHYSICAL ACTIVITY FOR THE RELEASE OF TENSION	☐	☐	☐	18
(f) PHYSICAL ACTIVITY AS PROLONGED AND STRENUOUS TRAINING	☐	☐	☐	19
(g) PHYSICAL ACTIVITY AS GAMES OF CHANCE	☐	☐	☐	20

3. How often do you watch each of the following types of physical activity on television?

	at least once per week	once or twice per month	less often or never	
(a) teen dance programmes	☐	☐	☐	21
(b) exercise and physical fitness programmes	☐	☐	☐	22
(c) special sports events showing dangerous and thrilling sports	☐	☐	☐	23
(d) programmes showing the beauty of human movement (gymnastics, fancy diving, etc.)	☐	☐	☐	24
(e) college or professional sports	☐	☐	☐	25

	at least once per week	once or twice per month	less often or never	
4. How often do you read about sports and physical activity in the newspaper?	☐	☐	☐	26
5. How often do you read about sports and physical activity in magazines or books?	☐	☐	☐	27

	two or more	one	none	
6. To how many clubs or organizations (outside of school) sponsoring sports or physical activity do you belong?	☐	☐	☐	28

7. Is there a television set in your home? Yes ☐ no ☐ 29

8. On the average, how many hours do you watch television each week? (for example, if you watch 2 hours each day, then you watch 2 x 7 or 14 hours each week).

(a) In summer ______________ (number of hours) 30-31

(b) In winter ______________ (number of hours) 32-33

9. On the average, how many hours do you watch sports on television each week?

(a) In summer ______________ (number of hours) 34-35

(b) In winter ______________ (number of hours) 36-37

10. In what sport or physical activity do you like to participate the most? (Consider all types of sports from swimming to field hockey to dancing). Write in the sport you like to play the most. ______________ 38-40

11. In what sport or physical activity does your father (or guardian) like to participate the most? ______________ 41-43

12. If you had the chance, name the sport in which you would like to participate most of all (even though you may never have played it before). ______________ 44-46

13. What is your favorite sport to attend as a spectator? ______________ 44-49

14. What is your father's (or guardian) favorite sport to attend as a spectator? ______________ 50-52

15. What is your favorite sport on television? ______________ 53-55

16. What is your father's favorite sport on television? ______________ 56-58

17. How old are you? years____________ months____________ 59-61

18. How many brothers and sisters do you have? number of brothers_____ number of sisters_____ 62

19. How many of your brothers and sisters are older than you are? ____________ 63
(write in)

20. In what country were your parents born?

father ________________
(write in country)

mother ________________
(write in country) 64

21. The Head of your Household is that person who works regularly to provide enough money to support the family. It is usually the father, but sometimes it is the mother or a guardian. If both mother and father are working, consider the father as head of your household.

(a) How much education has the head of your household had? (Mark the best one only.).

☐ 1. Graduate or professional training after first college degree
☐ 2. College or university degree
☐ 3. Some college training (1 year or more)
☐ 4. High school graduate
☐ 5. Some high school (completed grade 10 or 11)
☐ 6. Junior high school (completed grade 7, 8, or 9)
☐ 7. Less than seven years completed 65

(b) What does the head of your household do? What is his or her job?

____

(c) Briefly describe the kind of work they do at his job.

____
________________________ 66-69

22. What is your religious preference (mark one box only) (optional)

☐ Catholic
☐ Jewish
☐ Protestant ________________
(denomination or faith)
☐ None
Other ________________

17. How old are you?

years ______________
months ______________ 59-61

18. How many brothers and sisters do you have?

number of brothers ______
number of sisters ______ 62

19. How many of your brothers and sisters are older than you are?

______ (write in) 63

20. In what country were your parents born?

father ______________ (write in country)
mother ______________ (write in country) 64

21 The Head of your Household is that person who works regularly to provide enough money to support the family. It is usually the father, but sometimes it is the mother or guardian. If both mother and father are working, consider the father as head of your household.

(a) How much education has the head of your household had? (Mark the best one only.)

- ☐ 1. University or Training College
- ☐ 2. Grammar School
- ☐ 3. Technical School
- ☐ 4. Secondary modern school
- ☐ 5. Primary or elementary school
- ☐ 6. Other ______________ (write in)

(b) What does the head of your household do? What is his or her job?

____

(c) Briefly describe the kind of work they do at his job?

____

____

22. What is your religious preference (mark one box only) (optional)

- ☐ Catholic
- ☐ Jewish
- ☐ Protestant ______________ (demonination or faith)
- ☐ None
- ☐ Other ______________ (write in)

23. How often do you attend religious services? (optional)

☐ Once or more per week

☐ Once or twice per month

☐ Less often

☐ Never

24. On the average how often do you attend sporting events in person (consider all spectator sports)

	at least once per week	once or twice per month	less often or never
(a) In summer	☐	☐	☐ 69
(b) In winter	☐	☐	☐ 70

25. Are you a boy or girl? Boy ☐ Girl ☐

- Thank You -

SENAPS 3/29/66
(Project M)

Name (print)____________________ School _______________ Grade or Form_____
(last name first)

NAP SCALE

INSTRUCTIONS

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. If for you the statement is true, circle the T. if false, circle the F.

EXAMPLE

T F 1. Horses have two legs.

T F 1. Before voting I would thoroughly investigate the qualifications of all the candidates.

T F 2. I never hesitate to go out of my way to help someone in trouble.

T F 3. It is sometimes hard for me to go on with my work if I am not encouraged.

T F 4. I have never intensely disliked anyone.

T F 5. On occasion I have had doubts about my ability to succeed in life.

T F 6. I sometimes feel resentful when I don't get my way.

T F 7. I am always careful about my manner of dress.

T F 8. My table manners at home are as good as when I eat out in a restaurant.

T F 9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.

T F 10. On a few occasions, I have given up doing something because I thought too little of my ability.

T F 11. I like to gossip at times.

T F 12. There have been times when I felt like rebelling aginst people in authority even though I knew they were right.

T F 13. No matter who I'm talking to, I'm always a good listener.

T F 14. I can remember "playing sick" to get out of something.

T F 15. There have been occasions when I took advantage of someone.

T F 16. I'm always willing to admit it when I make a mistake.

T F 17. I always try to practice what I preach.

T F 18. I don/t find it particularly difficult to get along with loud mouthed, objoxious people.

T F 19. I sometimes try to get even, rather than forgive and forget.

T F 20. When I don't know something I don't at all mind admitting it.

T F 21. I am always courteous, even to people who are disagreeable.

T F 22. At times I have really insisted on having things my own way.

T F 23. There have been occasions when I felt like smashing things.

T F 24. I would never think of letting someone else be punished for my wrongdoings.

T F 25. I never resent being asked to return a favor.

T F 26. I have never been upset when people expressed ideas very different from my own.

T F 27. I would never make a long trip without checking the safety of my car.

T F 28. There have been times when I was quite jealous of the good fortune of others.

T F 29. I have almost never felt the urge to tell someone off.

T F 30. I am sometimes irritated by people who ask favors of me.

T F 31. I have never felt that I was punished without cause.

T F 32. I sometimes think when people have a misfortune they only got what they deserved.

T F 33. I have never deliberately said something that hurt someone's feelings.

SES SCALE

The following questions explain themselves. Read each carefully, then place an X opposite the best statement for you. There are no "right" answers. It is your opinion that counts.

1. I am able to do things as well as most other people.

   1 _____ Strongly agree
   2 _____ Agree
   3 _____ Disagree
   4 _____ Strongly disagree

2. I wish I could have more respect for myself.

   1 _____ Strongly agree
   2 _____ Agree
   3 _____ Disagree
   4 _____ Strongly disagree

3. I take a positive attitude toward myself.

   1 _____ Strongly agree
   2 _____ Agree
   3 _____ Disagree
   4 _____ Strongly disagree

4. All in all, I am inclined to feel that I am a failure.

   1. _____ Strongly agree
   2. _____ Agree
   3 _____ Disagree
   4 _____ Strongly disagree

5. I feel that I'm a person of worth, at least on an equal plane with others.
   1 _____ Strongly agree
   2 _____ Agree
   3 _____ Disagree
   4 _____ Strongly disagree

6. I feel I do not have much to be proud of.

   1 _____ Strongly agree
   2 _____ Agree
   3 _____ Disagree
   4 _____ Strongly disagree

7. I feel that I have a number of good qualities.

   1 _____ Strongly agree
   2 _____ Agree
   3 _____ Disagree
   4 _____ Strongly disagree

8. I certainly feel useless at times.

1 _____ Strongly agree
2 _____ Agree
3 _____ Disagree
4 _____ Strongly disagree

9. On the whole, I am satisfied with myself.

1 _____ Strongly agree
2 _____ Agree
3 _____ Disagree
4 _____ Strongly disagree

10. At times I think I am no good at all.

1 _____ Strongly agree
2 _____ Agree
3 _____ Disagree
4 _____ Strongly disagree

11. When you were growing up, who appeared to be your father's favorite child?

1 _____ I did
2 _____ Older brother
3 _____ Older sister
4 _____ Younger brother
5 _____ Younger sister
6 _____ Had no favorite as far as I know
7 _____ Different children at different times

12. During this period, did your father know who most of your friends were?

1 _____ Knew who all were
2 _____ Knew who most were
3 _____ Knew who some were
4 _____ Knew none, almost none

13. Which parent is it easier for you to talk to?

1 _____ Father much more
2 _____ Father somewhat more
3 _____ Both about same
4 _____ Mother somewhat more
5 _____ Mother much more

14. Which parent is more likely to praise you?

1 _____ Father much more
2 _____ Father somewhat more
3 _____ Both about same
4 _____ Mother somewhat more
5 _____ Mother much more

15. Which parent shows you more affection?

1 _____ Father much more
2 _____ Father somewhat more
3 _____ Both about same
4 _____ Mother somewhat more
5 _____ Mother much more

16. When your parents disagree, whose side are you usually on?

1 _____ Father much more
2 _____ Father somewhat more
3 _____ Both about same
4 _____ Mother somewhat more
5 _____ Mother much more

CLASSIFICATION OF SPORTS & PHYSICAL ACTIVITY

INSTRUCTIONS

This is the last one! You will remember from other inventories the different types of physical activity such as SOCIAL EXPERIENCE, HEALTH AND FITNESS, etc. Keep the definitions of each of these in mind as you answer the following questions.

1. What 2 sports or physical activities do you think are best for providing enjoyable SOCIAL EXPERIENCES?
   1. _______________________
   2. _______________________

2. What two physical activities do you think are the best for developing HEALTH AND FITNESS?
   1. _______________________
   2. _______________________

3. What two physical activities are best for providing THRILLS AT SOME RISK?
   1. _______________________
   2. _______________________

4. What two physical activities do you think are best for showing THE BEAUTY OF HUMAN MOVEMENT?
   1. _______________________
   2. _______________________

5. What two physical activities do you think are best for RELEASING TENSION?
   1. _______________________
   2. _______________________

6. What two physical activities do you think require the most PROLONGED AND STRENUOUS TRAINING?
   1. _______________________
   2. _______________________

7. What two sports or physical activities do you think are based mostly on CHANCE or LUCK? 1. _______________________
   2. _______________________

APPENDIX D

MAXIMIZED WEIGHTS FOR SEMANTIC DIFFERENTIAL SCALES

DERIVED WEIGHTS FOR SEMANTIC DIFFERENTIAL SCALE AS GENERATED FROM A PRIORI WEIGHTS BY THE METHOD OF RECIPROCAL AVERAGES

Attitude	Item Number	A Priori Weights	Derived Weights
Social			
	1	7-6-5-4-3-2-1	7-5-4-3-2-1-1
	2	1-2-3-4-5-6-7	1-2-2-3-4-5-6
	3	7-6-5-4-3-2-1	7-6-4-3-2-1-1
	4	1-2-3-4-5-6-7	1-2-3-5-6-7-7
	5	7-6-5-4-3-2-1	7-6-5-4-2-1-1
	6	1-2-3-4-5-6-7	2-3-2-4-5-6-7
	7	7-6-5-4-3-2-1	7-6-5-5-3-3-3
	8	7-6-5-4-3-2-1	7-6-6-5-4-4-4
Health and Fitness			
	9	7-6-5-4-3-2-1	6-5-3-2-1-1-1
	10	1-2-3-4-5-6-7	3-2-1-3-3-5-6
	11	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	12	1-2-3-4-5-6-7	1-3-3-5-6-7-7
	13	7-6-5-4-3-2-1	7-7-5-4-2-2-1
	14	1-2-3-4-5-6-7	2-2-2-4-5-6-7
	15	7-6-5-4-3-2-1	7-6-5-4-4-3-1
	16	7-6-5-4-3-2-1	7-6-6-5-4-4-4
Pursuit of Vertigo			
	17	7-6-5-4-3-2-1	6-5-4-3-3-2-1
	18	1-2-3-4-5-6-7	1-2-3-4-4-6-7
	19	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	20	1-2-3-4-5-6-7	1-2-3-4-5-7-7-
	21	7-6-5-4-3-2-1	7-6-5-4-2-1-1-
	22	1-2-3-4-5-6-7	1-1-2-3-5-6-7
	23	7-6-5-4-3-2-1	6-6-5-4-3-2-2
	24	7-6-5-4-3-2-1	7-7-6-5-5-4-3
Aesthetic			
	25	7-6-5-4-3-2-1	7-6-4-3-2-1-1
	26	1-2-3-4-5-6-7	1-2-3-3-5-6-7
	27	7-6-5-4-3-2-1	7-6-4-4-3-2-1
	28	1-2-3-4-5-6-7	1-2-3-5-5-6-7
	29	7-6-5-4-3-2-1	7-6-5-4-2-2-1
	30	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	31	7-6-5-4-3-2-1	6-5-4-4-3-2-1
	32	7-6-5-4-3-2-1	7-6-5-5-5-4-3

DERIVED WEIGHTS FOR SEMANTIC DIFFERENTIAL SCALE - (continued)

Attitude	Item Number	A Priori Weights	Derived Weights
Catharsis			
	33	7-6-5-4-3-2-1	6-5-4-3-2-1-1
	34	1-2-3-4-5-6-7	1-2-2-3-4-6-7
	35	7-6-5-4-3-2-1	7-6-4-4-2-2-1
	36	1-2-3-4-5-6-7	1-2-3-5-6-7-7
	37	7-6-5-4-3-2-1	7-6-5-4-2-2-1
	38	1-2-3-4-5-6-7	1-3-3-4-5-6-7
	39	7-6-5-4-3-2-1	7-6-5-5-3-3-1
	40	7-6-5-4-3-2-1	7-6-5-5-4-4-3
Ascetic			
	41	7-6-5-4-3-2-1	6-5-4-4-3-2-1
	42	1-2-3-4-5-6-7	1-1-2-3-4-5-6
	43	7-6-5-4-3-2-1	7-7-6-5-4-2-1
	44	1-2-3-4-5-6-7	1-2-3-5-6-7-7
	45	7-6-5-4-3-2-1	7-7-5-4-3-2-1
	46	1-2-3-4-5-6-7	1-2-3-4-5-6-7
	47	7-6-5-4-3-2-1	6-5-4-3-2-2-1
	48	7-6-5-4-3-2-1	7-6-6-5-4-3-3
Chance			
	49	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	50	1-2-3-4-5-6-7	2-3-4-5-6-6-7
	51	7-6-5-4-3-2-1	6-5-4-3-2-1-1
	52	1-2-3-4-5-6-7	1-2-3-4-5-7-7
	53	7-6-5-4-3-2-1	7-6-5-4-2-1-1
	54	1-2-3-4-5-6-7	1-2-3-3-5-6-7
	55	7-6-5-4-3-2-1	7-6-5-4-3-2-1
	56	7-6-5-4-3-2-1	7-6-5-4-4-3-2
Body Esteem			
	25	7-6-5-4-3-2-1	7-6-5-4-4-3-3
	26	1-2-3-4-5-6-7	1-1-3-5-6-7-7
	27	7-6-5-4-3-2-1	7-6-4-4-3-2-1
	28	1-2-3-4-5-6-7	1-1-1-2-3-5-6
	29	7-6-5-4-3-2-1	7-7-5-4-3-2-1
	30	1-2-3-4-5-6-7	2-2-2-4-4-6-7
	31	4-4-4-4-4-4-4	6-6-5-5-5-5-7
	32	7-6-5-4-3-2-1	6-4-3-2-2-1-3

APPENDIX E

STANDARDIZED SAMPLING AND ADMINISTRATIVE PROCEDURES

A Note on Sampling
Instructions for Administering Inventories

GK 3/25/66

Project M-I: A Note on Sampling

The Population

The population for Project M consists of secondary school students from selected urban communities in four English speaking countries; namely, Australia Canada, England, and the United States. This population has four sub-populations from which samples will be drawn.

Sub-Population 1: Boys, approximately 15 years old. In Canada and the United States this group is operationally defined as 10th grade boys; in England and Australia, 4th and 3rd form boys respectively.

Sub-Population 2: Girls, approximately 15 years old. Operationally defined as in sub-population 1.

Sub-Population 3: Boys, approximately 17-18 years old. Operationally, in Canada and the United States, this group is made up of 12th grade boys. In England and Australia, the group will be 6th and 5th form boys respectively.

Sub-Population 4: Girls, approximately 17 18 years old. Operationally defined as in Sub-Population 3.

Sampling

From at least one city in each country, samples of each of the four sub-populations will be drawn, statifying on school type and socio-economic status. The major sampling unit will be the school. That is, schools will be selected in proportion to their type and the SES of their enrollment. Within each school, students will be selected at random so that a minimum of 250 subjects (from each sub-population) will be available from each city sampled. Where it is not possible to select subjects at random from a particular school, classroom units will be selected in such a way to reflect a cross-section of the school population. It is conceivable that one school could provide subjects representing up to four of the sub-populations.

Example Selection Procedure:: Sub-Population 1: 15 year old boys (N=250)

English City

Population characteristics (hypothetical)

1. School type and proportion of students in each

grammar: 20%
secondary modern: 50%
comprehensive or bilateral: 20%
voluntary (church related): 10%

2. Socio-economic status: full range, reflected by school location and type

Example

School Type	Prop. of sample	Relative SES*	Minimum no. of Subjects
Grammar 1	10%	high	25
Grammar 2	10%	low	25
Sec. Mod. 1	12.5%	high	30
Sec. Mod. 2	12.5%	low	30
Sec. Mod. 3	12.5%	low	30
Comprehensive or Bilateral 1	10%	high-low	25
Comprehensive or Bilateral 2	10%	high-low	25
Voluntary (Roman Catholic)	10%	?	25
Totals	100%		245

*To reflect distribution among schools in particular city. Actual sampling will be dependent upon assistance of local school authorities.

U. A. or Canadian City

Population characteristics (hypothetical)

1. School type and proportion of students in each

public high school: 80%
Parochial schools: 20%

2. Socio-economic status: full range determined primarily by school location

Example

School Type	Prop. of sample	Relative SES	Minimum no. of Subjects
High School 1	20%	high	50
High School 2	20%	med.	50
High School 3	20%	med.	50
Parochial 1	10%	med.-high	25
Parochial 2	10%	low	25
Totals	100%		250

PROJECT M: PROCEDURES FOR ADMINISTERING INVENTORIES

General Instructions:

The plan for administering the inventories in each city is as follows; samples are to be selected according to procedures outlined in the document, "A Note on Sampling." Subjects are to be brought together in manageable units, and administered three inventories. The data will be coded where necessary, following instructions in the Project M Code Manual, and then transferred to punched cards. In the case of the Alberta sample, and possibly the Australian sample, it is suggested that the data, once transferred to punch cards, be placed on magnetic tape and transferred to Madison. This will permit separate analyses in both Edmonton and Madison. Also, this will permit returning total scores from BAT to Edmonton after submitting to our item analyses program (RAVE.) When the time comes, we have a magnetic tape that we will send to Edmonton for this purpose.

Instructions to Test Administrators:

1. There are three inventories to be administered within a single period in the following order:
    a. BAT: This inventory provides seven attitude and two body image scores. Data need to be subjected to an item analysis program (RAVE) to acquire total scores or hand-scored to acquire the total scores. If Digitek answer sheets are used, they will need to be run through Digitek card punch.
    b. GIN: This inventory provides general information regarding interests and activities of members of the secondary school samples. Some of the questions will need coding; others can be punched directly from the inventory. Again, follow instructions in the Code Manual.
    c. SENAPS: This inventory provides three scores: a score on a "Need for Approval" scale, a score on a self-esteem scale and also a score on relationship with father. Sport classification is also on this inventory. The special instructions for coding these are provided in the Code Manual. These will need to be scored by hand and then transferred to punched card.
2. You will need some assistance — preferably someone who understands fully the nature of the project. In addition, you should have a teacher present to maintain the rapport of the group. Do not allow the teacher to say anything more than to introduce you to the group. This will prevent any contamination prior to administering the inventories.
3. The inventory should be given in a class room — not the gymnasium. If possible, there should be a space between each subject while he responds to the questions.
4. Be sure you have adequate numbers of inventories, together with any additional material you may need. such as extra pencils.

5. Be absolutely certain that all subjects understand the instructions both before they begin and later, should questions arise. During the time that the subjects are filling out the inventories, walk about the room, since many people are reluctant to ask a question until you are near or next to them. Check frequently to see if they are answering correctly.

Instructions to Subjects: Read the following statement to the subjects:

I AM HERE TODAY TO ASK YOU TO BECOME A PART OF A RESEARCH PROJECT DESIGNED TO GET TO KNOW MORE ABOUT SCHOOL STUDENTS. THIS IS AN INTERNATIONAL PROJECT, WITH STUDENTS TAKING PART FROM ENGLAND, UNITED STATES AND AUSTRALIA. WE WILL BE ASKING YOU TO ANSWER QUESTIONS ABOUT A WIDE VARIETY OF SUBJECTS. TO DO THIS, WE HAVE ARRANGED THESE QUESTIONS INTO BOOKLETS THAT WE CALL INVENTORIES. THERE ARE THREE OF THESE ALTOGETHER. NONE OF THE QUESTIONS IS DIFFICULT. THIS IS NOT LIKE A TEST WITH RIGHT AND WRONG ANSWERS. IN MOST CASES, YOU WILL NEED ONLY TO EXPRESS YOUR OPINION ABOUT DIFFERENT SUBJECTS; IN FACT, YOU MAY EVEN FIND THE EXPERIENCE INTERESTING AND ENJOYABLE, SINCE THERE ARE NO DATES TO REMEMBER, NOR MATHEMATICAL PROBLEMS TO SOLVE. FROM TIME TO TIME YOU WILL COME ACROSS "PHYSICAL ACTIVITY: — FOR US THIS REFERS TO ALL TYPES OF ACTIVE GAMES, SPORTS AND DANCE.

BEFORE WE BEGIN TODAY I WOULD LIKE TO INTRODUCE TWO PEOPLE WHO WILL BE AVAILABLE TO HELP YOU IF YOU HAVE ANY QUESTIONS.

IN A FEW MOMENTS, WE WILL DISTRIBUTE THE FIRST INVENTORY. (BAT). THE OTHER TWO INVENTORIES WILL BE PLACED ON YOUR DESK LATER SO THAT YOU CAN START THEM AS SOON AS YOU HAVE FINISHED THE FIRST. THEY REQUIRE NO EXPLANATIONS. SIMPLY READ THE INSTRUCTIONS AND ANSWER THE QUESTIONS AS ASKED. HOWEVER, PAY NO ATTENTION TO THESE OTHER INVENTORIES UNTIL YOU HAVE COMPLETED THE FIRST ONE. WE WILL NOW DISTRIBUTE THE FIRST INVENTORY TOGETHER WITH THE INSTRUCTIONS THAT YOU WILL NEED TO HELP YOU COMPLETE IT. PLEASE DO NOT WRITE OR PUT ANY MARKS ON THE INSTRUCTION SHEET. READ THE INSTRUCTIONS CAREFULLY, BUT DO NOT BEGIN UNTIL YOU ARE TOLD TO DO SO.

SO THAT EVERYONE UNDERSTANDS EXACTLY WHAT IS REQUIRED, I WOULD LIKE TO QUICKLY GO OVER THE INSTRUCTIONS. (Refer to instructions for BAT — point and use of Digitek, if used.)

ARE THERE ANY QUESTIONS?

IF NOT, YOU MAY BEGIN, KEEPING IN MIND THAT AS SOON AS YOU HAVE FINISHED THE FIRST INVENTORY, CHECK TO SEE THAT YOU HAVE ANSWERED ALL QUESTIONS, AND THEN GO ON TO THE SECOND AND THIRD INVENTORY IMMEDIATELY.

YOU SHOULD WORK FAIRLY QUICKLY, BUT CAREFULLY. I WOULD LIKE TO REMIND YOU THAT ALL INFORMATION IS HELD STRICTLY CONFIDENTIAL. IT WILL ONLY BE SEEN BY THOSE WHO ARE CONNECTED WITH THE RESEARCH PROJECT. THE SUCCESS OF THE RESEARCH DEPENDS HEAVILY, OF COURSE, UPON EXPRESSING HOW YOU FEEL ABOUT EACH OF THE QUESTIONS. IF YOU HAVE ANY QUESTIONS DURING THE HOUR, SIMPLY RAISE YOUR HAND, AND ONE OF US WILL BE GLAD TO ANSWER THEM.

WHEN YOU FINISH, CHECK TO SEE THAT ALL QUESTIONS HAVE BEEN ANSWERED ON EVERY PAGE. THEN SIT QUIETLY UNTIL THE OTHERS FINISH.

NOW BEGIN:

APPENDIX F

CODE MANUAL

PROJECT 8: CODE MANUAL*

Introduction

Data from Project 8 are from secondary school students in Australia, Canada, England and the United States. Three inventories were used.

(1) BAT Rev.: Providing attitude and body image scores via the semantic differential.

(2) GII: General Information Inventory, providing interest and basic personal data.

(3) [illegible]: Provides "self esteem," "need for approval," "relationship with father," and sport classification data.

With the exception of question [illegible] in GII, inventories are alike for all countries.

DECK ONE: ATP-Sem. - Semantic Differential - Raw Data
(hand punched or via Dig tek)

COLUMN	CONTENTS
1 - 56:	Responses to eight items for each of seven attitude concepts, pp 1-7 of inventory: social, health and fitness, vertigo, aesthetics, catharsis, ascetic, chance. Code 0: improper or no response
57-72:	BLANK
73:	1 (deck 1)
74:	Grade or Form: 1: 10th grade or 4th form 2: 12th grade or 6th form
75:	Sex: 1: male 2: female
76-79:	Pupil number: 0001 - 0999, Canada 1001- 1999: Australia 2001- 2999: England 3001- 3999: United States
80	Blank

DECK TWO: BAT-Rev. - Semantic Differential - Raw Data (Cont'd)
(hand punched or via Dig tek)

COLUMN	CONTENTS
1 - 48:	Responses to 24 items on each of 2 body image concepts: ideal body, perceived body.
49 - 72	BLANK
73:	2 (deck #)
74:	Grade or Form: 1: 10th grade or 4th form 2: 12th grade or 6th form
75:	Sex: 1: male 2: female
76 - 79:	Pupil number: 0001 - 9999: Canada 1001 - 1999: Australia 2001 - 2999: England 3001 - 3999: United States
80	Blank

DECK THREE: GIN - General Information Inventory

1. Values: After Allport - Vernon - Lindzey and Spranger typology.

How interested are you in each of the following?

Col. 1: theoretical matters
Col. 2: practical and useful
Col. 3: beautiful
Col. 4: other people
Col. 5: politics
Col. 6: religious matters

Code as follows:

0: improper or no response
1: very much
2: some
3: little or none

2-A. How often do you actually take part in physical activities that are best described by one or more of the following categories (when in season)?

Col. 7: social experience
Col. 8: health
Col. 9: thrills and risk
Col. 10: beauty in movement
Col. 11: release of tension
Col. 12: strenuous training
Col. 13: games of chance

Code as follows:

0: improper or no response
1: once or twice a week
2: once or twice a month
3: less often

2-B. Now, thinking of your best friends, how often do they actually take part?

Col. 14: social
Col. 15: health
Col. 16: thrill and risk
Col. 17: beauty in movement
Col. 18: release of tension
Col 19: strenuous training
Col. 20: games of chance

Code as follows:

0: improper or no response
1: once or twice a week
2: once or twice a month
3: less often

DECK THREE (GIN: cont'd)

3. How often do you watch each of the following types of physical activity on television?

Col. 21: teen dance
Col. 22: physical fitness
Col. 23: thrilling sports
Col. 24: beauty of movement
Col. 25: college or professional sports

Code as follows:

0: improper or no response
1: once a week
2: once or twice a month
3: less often

How often do you read about sports and physical activity?

4. Col. 26: in the newspaper

5. Col. 27: in magazines or books

Code as follows:

0: improper or no response
1: once a week
2: once or twice a month
3: less often

6. To how many clubs or organizations sponsoring sports or physical activity do you belong?

Col. 28:

Code as follows:

0: improper or no response
1: two or more
2: one
3: none

7. Is there a television set in your home?

Col. 29:

Code as follows:

0: improper or no response
1: yes
2: no

8. Watching television- in general

Col. 30-31: hours per week - summer
Col. 32-33: hours per week - winter

9. Watching television - sports

Col. 34-35: hours per week - summer
Col. 36-37: hours per week - winter

Interest in Specific Sport*

10. Col. 38-40: In what sport or physical activity do you like to participate the most? (Consider all types of sports from swimming to field hockey to dancing). Write in the sport you like to play the most.

11. Col. 41-43: In what sport or physical activity does your father (or guardian) like to participate the most?

12. Col. 44-46: If you had the chance, name the sport in which you would like to participate most of all (even though you may never have played it before).

13. Col. 47-49: What is your favorite sport to attend as a spectator?

14. Col. 50-52: What is your father's (or guardian) favorite sport to attend as a spectator?

15. Col. 53-55: What is your favorite sport on television?

16. Col. 56-58: What is your father's favorite sport on television?

*Coding based upon classification of responses. See Classification of Sports

17. How old are you? (Months as of February 1,1966)

Col. 59-61: 000: no response

18. How many brothers and sisters do you have?

Col. 62: Total
0: none or no response
1: 1
...:
9: 9 or more

19. How many of your brothers and sisters are older than you are?

Col. 63: Total
0: none or no response
1: 1
...:
9: 9 or more

20. In what country were your parents born:

Col. 64: Code as follows:

0: no response
1: neither parent in home country
2: father in home country
3: mother in home country
4: father and mother in home country

21. Head of Household:

(a). How much education has the head of your household had?

CANADA AND U.S. ONLY:

Code as follows:

Col. 65:

0: no response
1: grad. training
2: college
3: some college
4: high school graduate
5: some high school
6: junior high school
7: less than 7 years

AUSTRALIA AND ENGLAND ONLY:

Col. 65

0: no response
1: university or training college
2: grammar school
3: technical school
4: secondary school
5: primary or elementary school
6: other

(b), (c) Occupation of head of household

Col. 66: Hollingshead categories

Code as follows:

0: improper or no response
1: higher executive, proprietors of large concerns and major professionals
2: business managers, proprietors of medium sized businesses, and lesser professionals
3: administrative personnel, small independent business, and minor professionals
4: clerical and sales workers, technicians and owners of little businesses
5: skilled manual employees
6: machine operators and semi-skilled employees
7: unskilled employees

22. What is your religious Preference?

Col. 67:

Code as follows:

0: improper or no response
1: Catholic
2: Jewish
3: Protestant
4: none
5: other

DECK THREE (GIN: con'd)

23. How often do you attend religious services?

Col. 68: Code as follows:

0: improper or no response
1: one or more a week
2: once or twice a month
3: less often
4: never

24. On the average, how often do you attend sporting events (consider all spectator sports)?

Col. 69: in summer

Col. 70: in winter

Code as follows:

0: improper or no response
1: once or more per week
2: once or twice per month
3: less often or never

25. Sex and level of Educational Attainment: Coded as part of identification below:

71-72: BLANK

73: 3 (deck #)

74: Grade or Form: 1: 10th grade or 4th form
2: 12th grade or 6th form

75: Sex: 1: male
2: female

76-79: Pupil number: 0001 - 0999 Canada
1001 - 1999 Australia
2001 - 2999 England
3001 - 3999 United States

80: Blank

DECK FOUR: SENAPS - Total scores from BAT-Rev. - Need for Approval, Self-Esteem, Rel. with Father, and Sport Classification

BAT-Rev. Total Scores

Col. 1-2: Attitude I: Social

3-4: Attitude II: Health & Fitness

5-6: Attitude III: Vertigo

7-8: Attitude IV: Aesthetics

9-10: Attitude V: Catharsis

11-12: Attitude VI: Ascetic

13-14: Attitude VII: Chance

Col. 15-16: Ideal Body - Evaluation

17-18: Ideal Body - Potency

19-20: Ideal Body - Activity

21-22: Perceived Body - Evaluation

23-24: Perceived Body - Potency

25-26: Perceived Body - Activity

Col. 27-28: Need for approval raw score[1].

Col. 29: Self-Esteem Scale[2]

Col. 30: Relation to Father Scale[2]

Code self-esteem as follows:
0: no positive scales
1: one positive scale
2: two positive scales
3: three positive scales, in appropriate score
4: four positive scales
5: five positive scales
6: six positive scales
9: no response

Cont'd

---

1. CROWNE, D. P., & Marlowe, D., The Approval Motive. New York: Wiley, 1964.
2. ROSENBERG, M., Society and The Adolescent Self-Image. Princeton, N.J.: Princeton University Press, 1965.

DECK FOUR (SENAPS: Con'd)

Scoring: Self-Esteem Scale

Scale I - Questions 4, 5, 7 - 2 out of 3 or 3 out of 3 answered positively - positive score
Scale II - Questions 1 and 6 - 1 or 2 out of 2 answered positively - positive score
Scale III - Questions 3 answered positively - positive score
Scale IV - Question 9 answered positively - positive score
Scale V - Question 2 answered positively - positive score
Scale VI - Questions 8 and 10 answered positively - positive score

Self-Esteem score is the total number of positive scales.

Relation to Father Score is total number of positive responses on Questions 11 through 16.

Listing of Positive Responses Questions 1 through 16:

Q.1 - 3,4
Q.2 - 1,2
Q.3 - 3,4
Q.4 - 1,2
Q.5 - 3,4
Q.6 - 1,2
Q.7 - 3,4
Q.8 - 1,2
Q.9 - 3,4
Q.10 - 1,2
Q.11 - 1
Q.12 - 1,2
Q.13 - 1,2,3
Q.14 - 1,2,3
Q.15 - 1,2,3
Q.16 - 1,2,3

Classification of Sport

deck 3: items 10 through 16, using columns 38 - 58.
deck 4: student classification of sport
Col. 45 - 46: social
47 - 48: health and fitness
49 - 50: vertigo
51 - 54: aesthetics
53 - 54: catharsis
55 - 56: ascetic
57 - 58: chance

CODE AS FOLLOWS:

Unclassified

00: improper or no response
01: judo, karate
02: canoeing
03: rowing
04: netball
05: cricket
06: Australian rules rugby
08: boxing
09: flying

Note 1: Activities have been crudely classified into one of the seven classes used in this study. The system permits easy sorting into the various classes by using the first digit of the classification code. Those not readily classifiable, have been assigned other codes.

Social (10-19)
10: social dancing

Health and Fitness (20-29)
20: weight training and lifting - body building
21: conditioning exercises

Vertigo (30-39)
30: skiing and bobsledding
31: Equestrian sports
32: car and motor cycle racing
33: rodeo
34: motor cycling, other than racing (if T.V. assume racing)
35: diving
36: sky diving
37: sailing
38: rock and mountain climbing
39: skin and scuba diving

Aesthetic (40-49)
40: figure skating
41: dance, other than social

Catharsis (50-59)
50: swimming
51: tennis
52: badminton
53: volleyball
54: recreational skating or just "skating"
55: golf
56: water skiing
57: curling
58: bowling
59: hunting and/or fishing

Ascetic (60-69)
60: American or Canadian football
61: soccer
62: rugby
63: ice hockey
64: basketball
65: baseball
66: field (grass) hockey
67: speed skating
68: track & field (athletics)
69: gymnastics

Chance (70-79)
70: horse racing
71: dog racing
72: cards or other table games involving some element of chance

Unclassified
81: amateur wrestling
82: professional wrestling
83: biking
84: recreational cycling
85: cycle racing
86: table tennis, ping pong
87: archery
88: soft ball
89: hiking
90: billiards, pool, etc.
91: rounders
92: camping, outing, etc.
93: lacrosse
94: surfing
95: handball
96: polo
97: darts
98: walking
99: other (including floor hockey, speedball)

APPENDIX [illegible]

INTER-CORRELATION MATRIX: ALL VARIABLES

		25 [illegible]	26 [illegible]	27 [illegible]	28 [illegible]	29 [illegible]	30 [illegible]	31 [illegible]	32 [illegible]	33 [illegible]	34 AGE	35 [illegible]	36 [illegible]
[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	18	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	22	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	23	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	25	1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	26		1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	27			1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	28				1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	29					1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	30						1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	31							1.000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	32								1.000	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	33									1.000	[illegible]	[illegible]	[illegible]
AGE	34										1.000	[illegible]	[illegible]
[illegible]	35											1.000	[illegible]
[illegible]	36												1.000